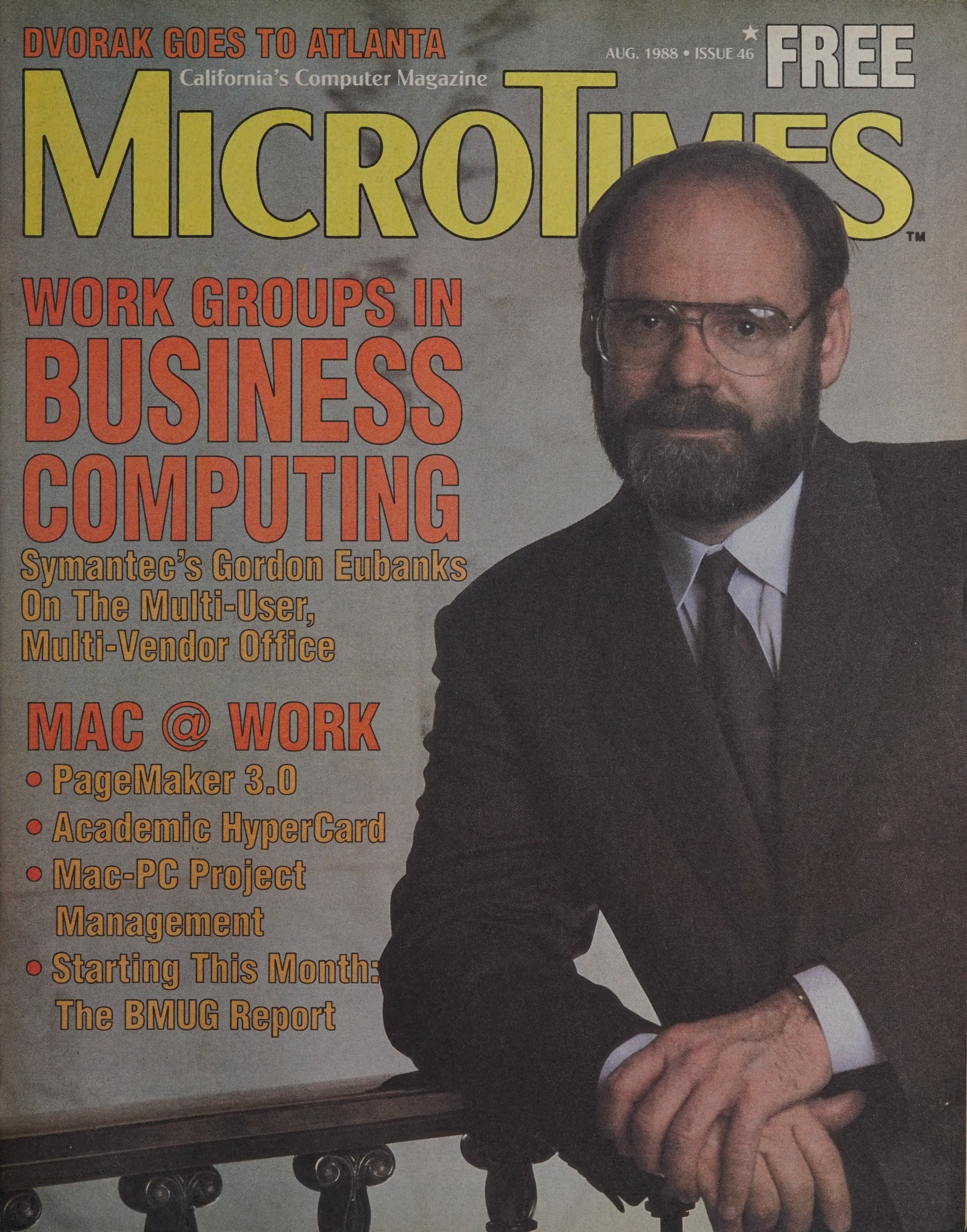
DVORAK GOES TO ATLANTA

AUG. 1988 • ISSUE 46 ★ FREE

California's Computer Magazine

MICROTIMES™



WORK GROUPS IN BUSINESS COMPUTING

Symantec's Gordon Eubanks On The Multi-User, Multi-Vendor Office

MAC @ WORK

- PageMaker 3.0
- Academic HyperCard
- Mac-PC Project Management
- Starting This Month: The BMUG Report

Designed with you in mind

If you were to design the ideal computer system, it would be designed with your convenience, your needs and budget in mind. The style would be the same taste you have in other electronic components such as stereos, TV's and VCR's – the high-tech look.

This is the concept of the **Delta Gold** line of computers. The **Delta Gold** family features three systems – The Elite (8088, 10 MHz), Prestige (286, 10 MHz) and the Premier (386, 16 MHz). All three computer are at the peak of speed performance.

The **Delta Gold** Computers include video, serial/parallel, and clock circuitry as a part of the motherboard. They are packaged with monochrome, CGA or EGA monitors making even the minimal configurations fully functioning units.

Also included is an integrated software package for word processing, spreadsheets, database management, DOS 3.2, GW Basic, and a 25 minute instructional video, to better clarify those first time questions. An easy front access quick reference DOS guide and digital clock add the final touches to these unbeatably priced systems. Your mind will be at ease with an 18 month warranty, and a toll-free technical support hot line.

The fact is the Delta Gold Systems are the obvious choice for you.

Specifications of the Standard System

Model	Elite	Prestige	Premier
Microprocessor	• 8 -bit Intel 8088 Turbo, 4.77 or 10 MHz	• 16-bit Intel 80286, 6 or 10 MHz	• 32-bit Intel 80386, 16 MHz
Co-processor	• Socket for 8087 match co-processor	• Socket for 80287 math co-processor	• Socket for 80387 math co-processor
Memory	• 512KB standard, socketed RAM (Zero Wait State), expandable to 768KB	• 512KB standard, expandable to 1 MB on motherboard	• 1MB standard on board RAM (Zero Wait States & fully utilized)
Storage Device	• One 5.25″ 360K, half-height drive • Optional space for internal 3½″ hard disk drive	• 5.25″ half-height, 1.2MB drive • Space for 3 half-height storage devices • Optional space for internal 3.5″ hard disk drive	• Standard 1.2 MB half-height drive • 40MB hard disk drive • Space for 5 half-height storage devices
Expansion Slots	• 4 expansion slots	• 8 expansion slots	• 8 expansion slots
Video Adapter	• Hercules equivalent, CGA, MGA, plantronics on motherboard	• MGA (Mono/color Hercules equivalent graphics card)	• EGA (enhanced graphics adapter card with Hercules capability)
Clock/Calendar	• Real time clock/calendar with battery back-up on motherboard	• Real time clock/calendar with battery back-up on motherboard	• Real time clock/calendar with battery back-up on motherboard
I/O Connections	• One serial communications port • One parallel port on motherboard	• 2 serial communications ports (RS-232C) • One parallel port	• 2 serial communications ports • One parallel printer port
Clicking Keyboard	• 84 key Selectric-style keyboard	• 101-key AT layout, Selectric-style	• 101 key AT layout, Selectric-style
Display Features	• 12″ high resolution monochrome monitor with tilt swivel	• 12″ high resolution monochrome monitor with tilt swivel	• 14″ EGA color monitor with tilt swivel
Controller Board	• On motherboard	• Western Digital Winchester and floppy disk controller card	• Western Digital Winchester and floppy disk controller card

Distributed exclusively by:

Worldwide Computer Distributors
11511 Tennessee Ave.
West Los Angeles, CA 90064
(213) 479-3931

CrystalPrint™

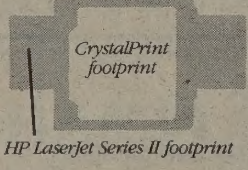
The Smallest, Most Personal Page Printer Has a New First Name

More Personal than Ever

Small. Lightweight. Fast. Quiet. As convenient and affordable as a personal computer. That's the CrystalPrint personal page printer. Now there's another reason to own one. As a result of the consolidation with Data Technology, it's available from Qume — one of the first and most respected names in the printer industry.

Personal Size

Qume CrystalPrint page printers require 50% less space than the leading laser printers. And they weigh 30% less. That means they can be desktop close, even when space is precious.



Personal Productivity

Qume CrystalPrint Series II™ and CrystalPrint WP™ page printers put six pages within arm's reach in a minute. There's no waiting. No ear-shattering noise. No traipsing around the office to a shared printer. Even the paper tray is conveniently front-loading to make you more efficient.

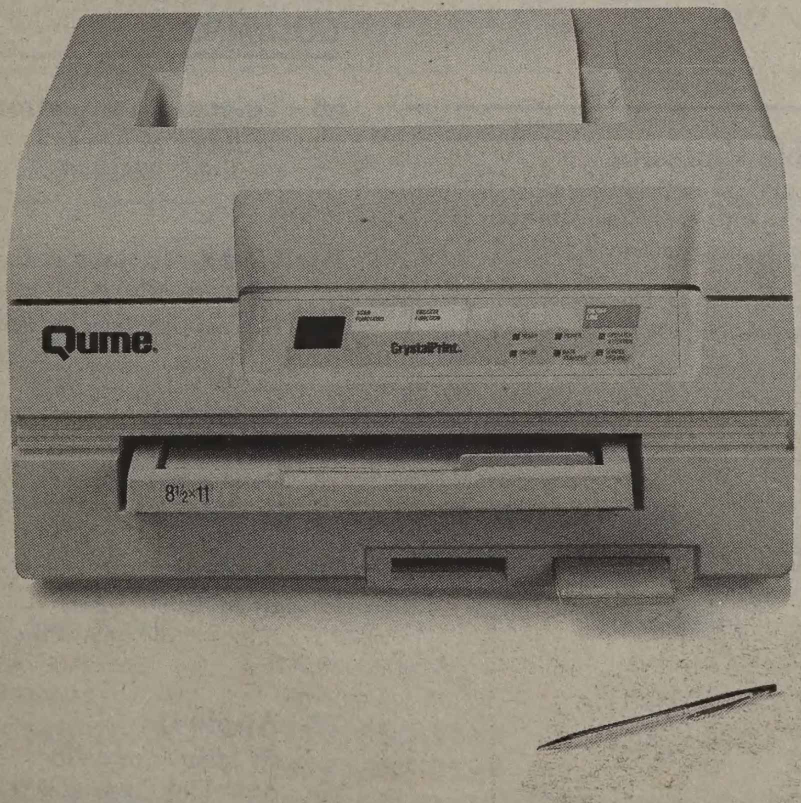
Qume®

Professional Performance

Qume CrystalPrint Series II gives you full HP LaserJet Series II™ emulation and fonts. CrystalPrint WP comes with Qume/Diablo emulation. HP or Epson emulation for presentation graphics and desktop publishing is optional. Other emulation and font cartridges are available for both models. And both deliver crisp, clear text and graphics — print quality that rivals the most expensive page printers, but at a much lower cost.

Personal Price

Here's the best part. At $1999* for the Qume CrystalPrint Series II and just $1299* for Qume CrystalPrint WP, page printing is now closer to you than ever before.



Get on a first-name basis with Qume CrystalPrint and let your CrystalPrint dealer show you the most personal page printer since the ballpoint pen.

For the location of the nearest Qume CrystalPrint dealer, call 1-800-223-2479.

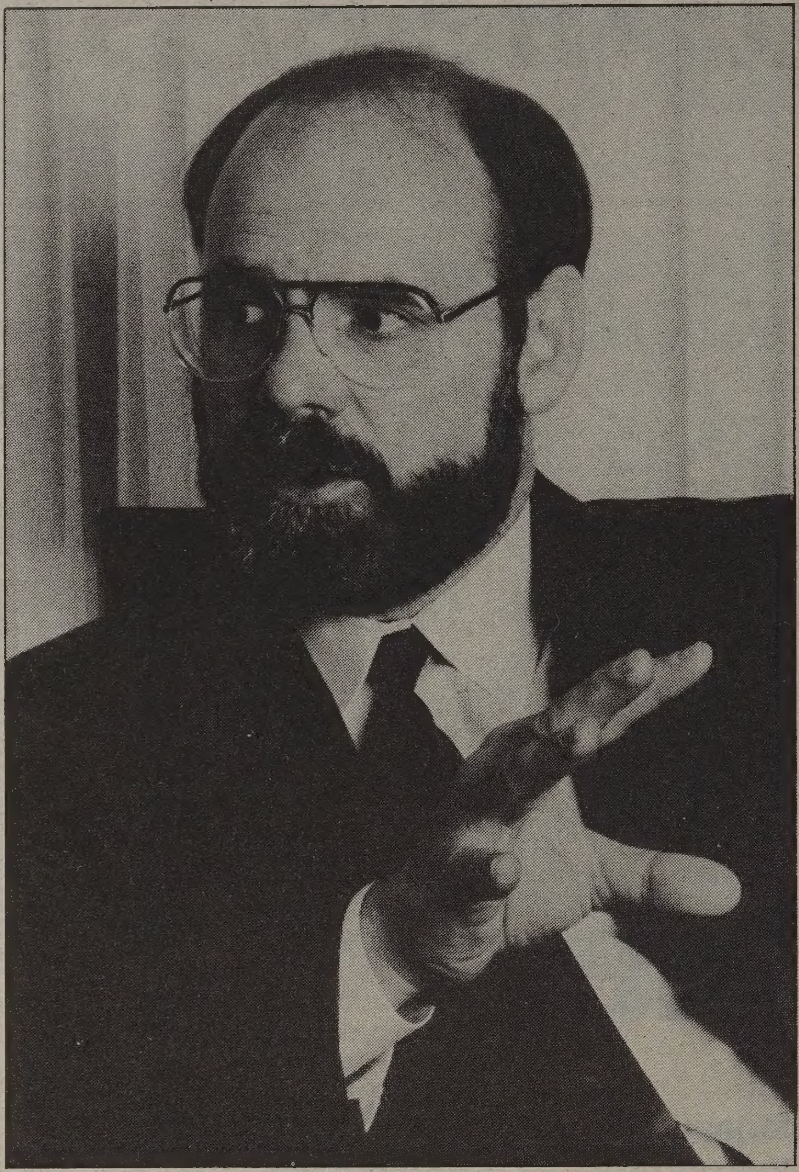
Qume.

500 Yosemite Drive,
Milpitas, CA 95035

LaserJet Series II, Epson and Diablo are registered trademarks of their respective corporations. *Suggested retail price

©Qume Corporation 1988

AUGUST 1988 ISSUE #46
MICROTIMES™



Gordon Eubanks of Symantec discusses the changing face of the personal computer industry. See page 34.
Cover and contents photos: Billy Douglas/Pat Johnson Studios
Location: Stanford Court Hotel, San Francisco

OPINION

32 Jim Warren's "Realizable Fantasies"
Biofeedback on your PC, better storage and power supply design ideas, plus an explanation of why voice-activated data entry is likely to remain vaporware into the next decade.

102 Dvorak's Last Column *By John C. Dvorak*
Dvorak's photographic impressions of COMDEX in Atlanta.

DEPARTMENTS

9 Calendar Of Events

14 News And Analysis *By Paul Hoffman*

24 Kenfil Software Chart

26 Letters

82 User Group Network

97 Classifieds

100 Index Of Advertisers

COVER STORY

34 Workgroups In Business Computing
By Mary Eisenhart
Gordon Eubanks, CEO of Symantec, which markets and develops software for a variety of business environments, discusses the challenges of the emerging multi-user, multi-vendor workplace.

MAC @ WORK

51 PageMaker 3.0
By Helmi Kobler
The new version of the perennial favorite offers improved text and graphics handling capabilities, and is the package of choice for small, design-intensive projects.

56 Macintosh-PC Connectivity
By Robert Grant Beauchamp
MicroPlanner, a project management package for Mac and PC.

60 BMUG *By David Morgenstern*
Formerly known as the Berkeley Macintosh User Group, BMUG Inc. is a veritable hotbed of innovative ideas and useful information. Starting this month, BMUG's David Morgenstern offers news from the group's meetings and tips from its tech support staff.

62 HyperCard *By Birrell Walsh*
HyperCard in the academic environment.

FEATURES

46 Images For Lotus Freelance
By Woody Liswood
Graphics packages for presenting your data effectively.

COLUMNS

66 Telecommunications
By Brock N. Meeks
Electronic Bill Of Rights faces new problems.

70 UNIX
By Bennett Falk
Hapless User installs XENIX, with mixed results.

74 Atari ST
By David Hawkins
Desktop publishing on the ST.

76 Amiga
By Matthew Leeds
A look at the state of the two-year-old Amiga market.

78 Apple II
By Mike Markowitz
AppleLink Personal Edition, a new online resource for Apple II users.

QUEST for the BEST

AT BARE BONES

- Deluxe AT Case with 3 LED & Reset Buttons
- 6/10 MHz Motherboard
- 0K RAM
- 230 Watt Power Supply

$385

$2175

386/16 MHz BARE BONES

- Deluxe AT Tower Case with 3 LED & Reset Buttons
- 386/16 MHz Main Board
- 1 Meg RAM on Board
- 230 Watt Power Supply

We carry a FULL LINE of Floppy and Hard Drives, including Controllers, Add On Cards, Printers, Monitors and Keyboards. Everything at the LOWEST PRICES for configuring your Personal System!

— SAMPLE ITEMS —

Super EGA Genoa w/Gem Package	$189
101 Keyboard	$ 45
84 Keyboard	$ 28
40 MB Seagate 251	$375
Relysis EGA Monitor	$375

WE UPGRADE ALL IBM/PC SYSTEMS

WE OFFER NETWORK SERVICE 10 NET-FOX

All Trademarks Acknowledged
Prices Subject to Change

QUEST SYSTEMS TECHNOLOGY, INC.

HUNTINGTON BEACH
18582 Beach Blvd, Ste. 8B
Huntington Beach, CA 92648
(714) 964-1108
(714) 964-4438

THOUSAND OAKS
1368 Harmony Court
Thousand Oaks, CA 91362
(805) 496-4605

UPLAND
560 N. Mountain Ave., #C
Upland, CA 91786
(714) 985-1189
(714) 985-0594

HOLLYWOOD
ORDER BY MAIL
(213) 675-3109
(213) 978-8735

EUROPE
Valhallavagen 148F
11524 Stockholm
Tel:
6605187/605187

GRAND OPENING SALE

In celebrating the grand opening of our third store in Rowland Heights, we are offering the following special sale prices.

THE ACCELERATOR 286

Replaces your computer's 8088 with an 80286 16-bit processor. It also includes 8K of zero-wait-state cache memory, and your software can run up to seven to nine times faster - faster than IBM AT.

Compatible with all software or any IBM PC, XT or compatible system. Includes 8088 Reboot and Cache enable/ disable switches.

$245

EVEREX SYSTEM 1800 AT

- 80286 w/ 512K RAM expandable to 1 Mb
- AT hard disk/floppy disk controller
- 1.2 Mb Teac floppy drive
- 8 expansion slots
- Five 1/2 height device slots
- AT style keyboard
- One year warranty

$1,495 with the following options:

- 640K RAM, mono/graphics/printer adapter
- 20 Mb Seagate hard disk
- Monochrome monitor

U.S. Made Only $945

SALES SPECIALS!!!

Taxan 770 14" multi-scan Color Monitor... $515
TAXAN 765 14" EGA Monitor... $395
Taxan 765 w/ 640X480 EGA card... $545
Everex 640X480 EGA card w/ printer port.. $145
Modem, Internal, 1200/2400 baud... $85/$175
Modem, External, 1200/2400 baud... $99/$195
Teac 1.2 Mb/360K/720K floppy drive... $95/79/125
Logitech serial mouse... $79
Citizen MSP 10-20/15-25 cut sheet feeders... $40

HARD DISK SPECIALS!!!

Seagate ST225/20 Mb/65 ms... $245
Seagate ST238/30 Mb/65 ms w/ controller... $305
Seagate ST251/40 Mb/40 ms... $380
Seagate ST251-1/40 Mb/28 ms... $495
Seagate ST277R/70 Mb/40 ms... $495

Installation Extra

FASTER THAN COMPAQ'S 20 MHz 386
U.S. MADE EVEREX SYSTEM 386, 20 MHz

- 80386 32-bit CPU, 20/10/6.7 MHz switchable, 0 wait-state operation
- 2 Mb 32-bit RAM expandable to 8Mb on motherboard, & 16Mb w/ 32-bit exp. slot
- 64K-256K cache of 25ns static RAM
- 35.0 MHz reading on Landmark test
- 80387 & Weitek 1167 support
- 8-digit alpha-numeric LED display
- Six 16-bit, two 8-bit, and one 32-bit expansion slots
- 1:1 interleave disk controller
- 1.2 Mb floppy drive
- Five 1/2 height device slots
- Enhanced 101 keyboard

CALL FOR PRICES

Our service centers offer 24-hour turnaround on most repairs.

We offer free on-site consulting for business customers on how to use computers to cut cost.

Ask about our *Pro-Care* program!!!

New Tandon PAC 286 With Removable Hard Disks

The definitive Personal Data Pac computer

- 80286 running at 6/8 or 8/10 MHz
- 1 Mbyte RAM on board with memory mapper - compatible with Microsoft Windows and OS/2. 384K usable as EMS
- RLL hard disk controller w/ 128K RAM disk cache
- 1.2 Mbyte floppy drive
- Two Personal Data Pac receptacles
- Parallel/serial ports on motherboard
- Five expansion slots, 101 enhanced keyboard
- DOS 3.2, GWBASIC, and Microsoft Windows
- One year nation-wide warranty
- Extra for 30 Mb removable hard disk (40ms)

The removable hard disk pac offers data portability, security, shareability, and unlimited storage expandability

Made in U.S.A.

EVEREX 386 3000A, 16 MHz

100% COMPATIBLE WITH MS-DOS & XENIX

- 80386 8/16 MHz, 0/1 wait keyboard switchable
- 1 Mb RAM, Norton SI rating 18.4
- 64k cache memory
- 1.2Mb Teac floppy drive
- Hard/floppy disk controller
- 8 expansion slots
- 5 half-height device slots
- AT keyboard

386 System only $1,995

ARC 10 MHZ XT ONLY $895

- 4/10 MHz
- 640K RAM
- 2 floppy drives
- Mono/graphics/ printer adaptor
- 15" dual mode mono monitor
- AT style keyboard
- DOS 3.2 manual
- FCC approved
- 1 year warranty

EPSON®
PRINTER SALE

LQ500..	Call	FX86e..	Call
LQ850..	Call	FX286e..	Call
EX800..	Call	LX800..	$199

LX 86 Cut Sheet Feeder.. $30

EPSON is a registered trademark of Seiko Epson Corporation.

NOVELL WESTERN DIGITAL CORPORATION TOSHIBA Panasonic Office Automation CITIZEN

PC Plus Corp.

MONTEREY PARK
710 E. GARVEY AVE
Corner of Orange
(818)571-6955

BUENA PARK
7212 ORANGETHORPE AVE. #7A
East of Knott & Orangethorpe
(714)739-2158

ROWLAND HEIGHTS
18795 E. COLIMA RD.
East of Fullerton Rd.
(818)964-6308

- Corporate sales call (818)810-4240
- Free delivery to corporate accounts
- Prices subject to change without notice.
- Returns require authorization
- Surcharge on credit cards
- Personal/company checks accepted
- COD/Shipping charges extra

MICROTIMES

Consumer Audit BPA

PUBLISHER EDITOR
Dennis Erokan

CREATIVE
CREATIVE DIRECTOR Lee Ann Nelson
MANAGING EDITOR Mary Eisenhart
EDITORIAL ASSISTANT Tony Rocco
PRODUCTION MANAGER Doug Boone
ASSISTANT PRODUCTION MANAGER Sheryl Manchester
ASSISTANT ART DIRECTOR Michael P. Didier
PRODUCTION ASSISTANT Mary Beth DeSantis
ART STAFF David Cunha, Lisa Lusk, Missy Mote, Heidi Sommer, Deborah Venezia
CAMERA OPERATOR John Moorehead
NEWS EDITOR Paul Hoffman
CONTRIBUTING EDITORS Robert D. Athey, Jr., Robert Grant Beauchamp, Bennett Falk, Helmi Kobler, Matthew Leeds, Michael Markowitz, Ben Means, Jean Means, Brock Meeks, Ken Milburn, Jeff Spurrier, Birrell Walsh, Jim Wolcott, Wayne A. Yacco
CONTRIBUTING WRITERS Sue Albert, Lenny Bailes, David Batterson, Steve Guttman, David Hawkins, Ed Kahn, Woody Liswood, Nancy Mulvany, Aubrey Pilgrim, Charles Seiter, Warren Sirota, Stephan Wickham, Jack Woehr
CONTRIBUTING PHOTOGRAPHERS Ken James, Michael Jay, Pat Johnson, Jim Marshall, Ann Summa
EDITORIAL CONSULTANTS Don Hamilton, Pat Hamilton
TYPESETTING Image Factory, The Typesetting Shop, Inc.

ADMINISTRATION
ASSOCIATE PUBLISHER Miles Hurwitz
ACCOUNTING MANAGER Linda Schenk
ASSISTANT ACCOUNTING MANAGER Lesley Hunter
ACCOUNTING Brian DeLuca, Patrick Emerson, Rosemary Galten, Carol Hunter, Brian Murray
PUBLISHER'S ASSISTANT Erica Stein-Oakley
ADMINISTRATIVE ASSISTANTS Greg Cline, Jill Stauffer

ADVERTISING
ASSOCIATE PUBLISHER Joe Amadeo
ASSISTANT TO THE ASSOCIATE PUBLISHER Marianne P. Stone
ADVERTISING DIRECTOR Chuck Stanley
NATIONAL ACCOUNT DIRECTOR Bill Reefer
SC SALES MANAGER Marcus Fields
ACCOUNT DIRECTORS Barry Green (Northern California), Reece Franklin (Southern California)
SENIOR ACCOUNT EXECUTIVE Jane Shepherd
ACCOUNT EXECUTIVES Susan R. Bower, Lee Salem
ADVERTISING ASSISTANT Renèe Delucchi (San Francisco)
L.A. OFFICE MANAGER Sally Engelfried
National Reps.: Carol Oppenheimer, John Lockhart

DISTRIBUTION
DISTRIBUTION MANAGER John Erokan
Art Holland, *Assistant Manager/LA*
DISTRIBUTION STAFF Gerri Anderson, John Clefstad, Roe Eyth, Danny Fernandez, Frank Grygus, Eliot Kleinberg, Kirk Lanier, Ron Lubben, Jac Michanovic, Paul Pierron, Joseph Rafalo, SDS, Alan Spector; Racks by Free Distribution
MICROTIMES FOUNDERS Dennis Erokan, Don Hamilton, Pat Hamilton

This Vol. 5. No. 8, August 1988, Whole No. 46 MicroTimes, California's Computer Magazine, is published by BAM Publications, Inc., 5951 Canning St., Oakland, CA 94609. Phone (415) 652-3810. Los Angeles Office, 1800 N. Highland, Suite 220, Hollywood, CA 90028. Phone (213) 467-7878. San Jose Office, 36 Harold Ave., Suite 8, San Jose, CA 95117. Phone (408) 244-4400. Anaheim Office, 800 S. Brookhurst, Suite 1F, Anaheim, CA 92804. Phone (714) 776-2900.

MicroTimes™ is © 1988 by BAM Publications, Inc.

Subscriptions rates: 12 issues, U.S.: 3rd Class $24 (Allow 3 to 4 weeks for delivery), 1st Class $50 (Allow 1 to 2 weeks for delivery). MEXICO & CANADA: Surface Mail $40 (Allow 4 weeks for delivery). Air Mail $65 (Allow 1 week for delivery). OVERSEAS: Surface Mail $40 (Allow 6 – 10 weeks for delivery), Air Mail $160 (Allow 1 week for delivery). To receive sample issues, please send $2 ($4 for overseas) to cover postage costs. Back issues are $4 each.

All rights reserved. Reproduction in whole or in part without permission of Publisher is strictly prohibited.

Unsolicited material is gratefully accepted, but we can't be responsible for returning it unless it is accompanied by a stamped, self-addressed envelope. The staff and management of MicroTimes do not advocate or encourage the use of any product or service advertised herein for illegal purposes.

MONTH LONG SPECIAL SALE IS ON NOW

HYUNDAI'S

A Strong Starter

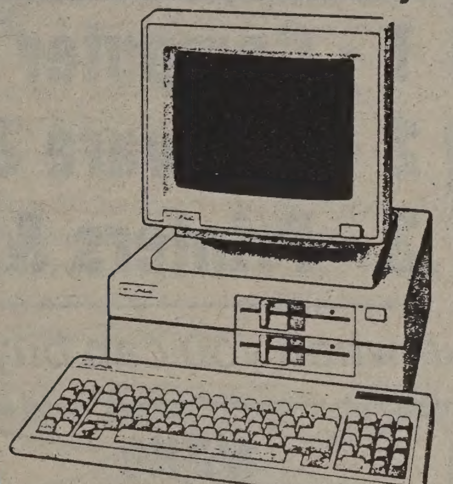
SUPER-16T

- 8088-2 Turbo
- 640K Memory
- 360K Floppy Drive
- 20MB Hard Disk
- HI-RES TTL Amber Monitor
- MS DOS/GW Basic
- Multi-Display Video Board
- Elec. Desk

ONLY $999

30MB UPGRADE	$35
COLOR UPGRADE	$200

18 Month Warranty



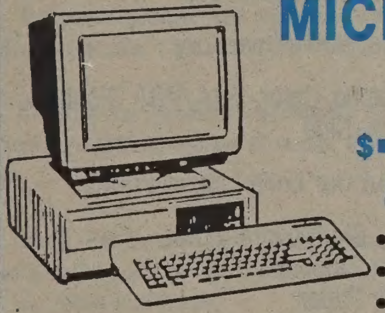
HIGH POWER LOW PRICE!

POWERFUL 286C

- 640 KB RAM On Board
- 8/10 MHZ clock speed
- 1.2 MB Floppy Drive
- Enhanced Keyboard
- ATI EGA Wonder Card
- Mono-Monitor

ONLY $1099

W/30MB Hard Disk	$1,499
W/40MB Hard Disk	$1579
W/65MB Hard Disk	$1599
COLOR UPGRADE	$200
EGA UPGRADE	$300



MICROSTAR XT

$799

- 30 MB Hard Disk
- 12 MHz
- 256K Memory
- 360K Floppy Drive
- Phoenix BIOS
- Hi Res TTL Monitor

STAR PRINTERS

NEW NX-1000 **8 N.L.Q. FONTS**	**$209**
COLOR PRINTER NX RAINBOW 1000	**$309**
ND-10	**$319**
NX-15	**$319**
NR-15	**$455**
NB24-10	**$449**
NB24-15	**$649**
NB-15	**$849**
FUJITSU 3400 24 Pin Wide Carriage	**$525**

EGA AT SYSTEM

$1899

- **8 & 16 MHz**
- Phoenix BIOS • 512K RAM • 100 NS
- 220 Watt Power Supply
- 1.2 MB
- EGA Card • AT I/O Card
- EGA Monitor w/Tilt & Swivel
- AT Style Keyboard
- 40 MB Hard Disk

HARD DISKS ONLY

20MB (65ms)	**$225**
30MB (65ms)	**$245**
42MB (40ms)	**$350**
42MB (28ms)	**$499**
65MB (40ms)	**$399**
80MB (28ms)	**$649**

(NO INSTALLATION CHARGE WITH SYTEM PURCHASE)

SPECIALS on

MICROSOFT WORD 4.0
SPECIAL PRICE
$199

MICROSOFT WORKS
SPECIAL PRICE
$95

SOFTWARE

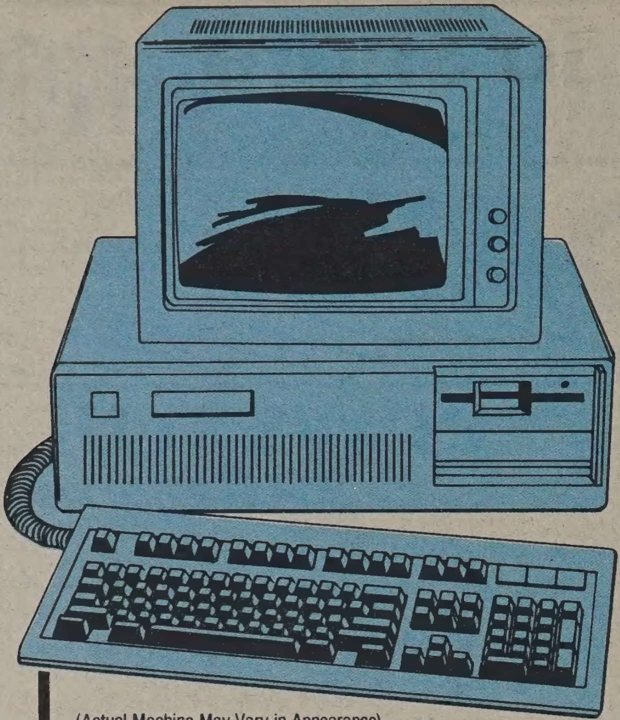
D Base III+	$389
Lotus 1-2-3	$309
Word Perfect	$199
MS Works	$119

CALIFORNIA
MicroStar
LEASING AVAILABLE

- Products and Prices subject to availability
- Prices reflect cash discount only.
- Memory Cost Surcharge may be applied to all systems due to exchange rate variance.

1583 ST. GERTRUDE PL.
SANTA ANA, CA 92705
(714) 641-8664

MasterCard VISA



(Actual Machine May Vary in Appearance)

IT'S EASY AS 1-2-3

1 - Computer Systems & Service
2 - Software & Accessories
3 - Printers & Print Supplies

Why drive all over town when you can buy everything in one place!

CURRENT SPECIALS:

While Quantities Last

Complete Turbo AT

20 MB System	**$1195**
40 MB System	**$1395**

Complete Turbo XT

20 MB System	**$ 995**
40 MB System	**$1195**

Also availabe in
12 & 16 MHZ versions

Includes Computer, Software, Training

Upgrade to VGA with Multiscan Monitor
$599

NEC HD EL
$2295
20 mb Laptop with
Back-Lit Display

NEW:

HP Desk Jet Printer. . . . . **$749^{00}**
Nearly the power of the HP Laser Jet at less than half the cost.

Hand Scanner . . . . **$199^{95}**
Scan periodicals, drawings, signatures, even photographs into your personal documents.

Above Disc. . . . . **$79^{95}**
Use disc or RAM memory to process larger Lotus, Symphony, etc. spreadsheets.

Copy II PC Deluxe
Option Board . . . . **$127^{95}**
Reads and writes Macintosh data diskettes right in your PC or AT compatible.

Fastbucks. . . . . **$2^{00}**
Use **FASTBUCKS** for budgeting, planning and organizing your personal finances.

PC-Tickle . . . . **$2^{00}**
This program keeps track of your schedule for you, then reminds you on the appropriate day.

YES! WE HAVE DESK JET SUPPLIES AND ACCESSORIES

Ask us about the
New *COLOR* Paint Jet

★ Big Selection of Ready To Buy Computer Systems
★ Best Commercial Software Selection
★ Best Shareware Selection ($2)
★ Biggest Book Selection
★ Largest Cable Inventory
★ See Mono, Color, EGA, VGA Displays Side by Side
★ Try Out Our Long Line of Printers
★ Plus a Big Inventory of:
  Printer Ribbons
  Printer Paper
  Printer Supplies
  Diskettes
  Many Other Accessories

FREE
Catalog on Diskette
Call or Stop By!

Quality, Technology
and Value since 1980

master charge VISA

Prices/availability are subject to change without notice. All prices are cash and carry. Please add 3% for Mastercard and Visa. All returns are subject to a restocking fee. Some quantities are limited to stock on hand.

Computer Resources Co.

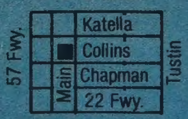
920 N. Main St. / Orange, CA 92668

YOUR ONE STOP COMPUTER SHOP

(714) 771-7361

Hours:
9-6 Tues. - Fri
10-5 Sat.

Corner of
Main &
Collins



CALENDAR OF EVENTS

SPONSORED BY SMART AND FRIENDLY

June 22 Resources And References For The Committed (And Novice) Spreadsheet User. Bakersfield. Kern Independent PC User Group. Call Barb Duey, (805) 397-6189 for information.

June 25 San Fernando Valley Computer Swap. California State University Northridge, North Campus. Call MICROSHOWS at (800) 433-7469 or write 1209 Donnelly Ave., Suite 203, Burlingame, CA 94010 for details.

June 25 Ventura Computer Show. Ventura Fairgrounds. East West Computer Shows. Call (415) 388-8893.

June 28 – July 1 Digital Signal Processing: Techniques & Applications Course. San Diego. Call Integrated Computer Systems, 1-800-421-8166.

June 28 – July 1 Computer Graphics: Software Techniques & Hardware Components. Los Angeles. Call Integrated Computer Systems, 1-800-421-8166.

July 2 Anaheim Computer Swap. Anaheim Convention Center. Call MICROSHOWS at (800) 433-7469 or write 1209 Donnelly Ave., Suite 203, Burlingame, CA 94010 for details.

July 5 – 8 Creating Software Systems With Ada UCLA Short Course. Call (213) 825-1901.

July 6 – 8 Software Quality Assurance: A Practical Approach UCLA Short Course. Call (213) 825-1901.

July 11 How To Train And Orient Employees Seminar. San Diego Marriott. Call Keye Productivity Center, 1-800-821-3919.

July 11 – 15 Empowering The User: The Design Of Human-Computer Interface UCLA Short Course. Call (213) 825-1901.

July 12 How To Train And Orient Employees Seminar. Westin Bonaventure, Los Angeles. Keye Productivity Center, 1-800-821-3919.

July 13 How To Train And Orient Employees Seminar. Hyatt Regency-Long Beach. Keye Productivity Center, 1-800-821-3919.

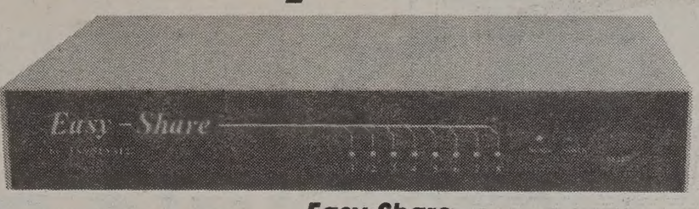
July 16 Computer Swap Meet. Los Angeles County Fairgrounds, Pomona. Call RK Productions at (800) 252-7927 for information.

July 18 How To Train And Orient Employees Seminar. Inland Empire Hilton, San Bernardino. Call Keye Productivity Center, 1-800-821-3919.

continued

Smart and *Friendly*

It's Easy To Share

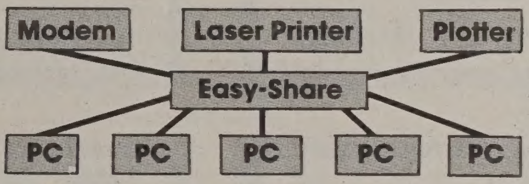


2 Year Warranty

Easy-Share
The Peripheral Sharing Solution

Now you can quickly and easily share your printers, plotters and modems with your computers. Easy-Share automatically buffers and routes your data to the desired output device, eliminating cable or diskette swapping and manual switchboxes.

Easy-Share doesn't require any special software to operate. It easily connects to your computer's serial or parallel ports and is compatible with all of your application software.



- Share up to 8 PCs and peripherals with Easy-Share

Easy-Share Gives You:

Easy Configuration
You can configure each port as "input" or "output"–allowing you to connect 7 computers to 1 printer, 6 computers to 2 printers, or any combination of up to 8 ports. And each port can be configured independently for Parity, Wordlength, Baud Rate, Input/Output operation as well as for "handshake" method (DTR/XON).

Easy Operation
Easy-Share automatically transfers data and performs any required switching. There are NO OPERATOR CONTROLS or switches to set. And, any or all "on-line" users can send documents at the same time. Buffer space is automatically allocated to insure maximum efficiency.

Easy Expansion
Easy-Share has 4 serial ports standard, and is expandable up to 8 ports. Plug-in interface cards allow for serial or parallel expansion. Plus, Easy-Share comes standard with 256K of RAM and is expandable to 1 megabyte of internal onboard RAM!

PLUS THESE OTHER FEATURES, FREE!

Bi-Directional Mode
Easy-Share supports a special bi-directional mode allowing the use of Modems, Plotters, or even the exchange of files between computers (requires user provided file exchange program).

Advanced Software Command Support
Easy-Share supports advanced software commands, including: Number Of Copies, Pause For Paper Change, Printer Select, Bi-Directional Modem Support, No Timeout (for Accounting Audit Trail Use), and others.

CALL TODAY AND SEE why Fortune 1,000 companies all over California have made Easy-Share their peripheral sharing solution.

FIND OUT HOW EASY (and inexpensive) it can be to share your peripherals in your own company with Easy-Share!

CALL NOW (408) 748-9330

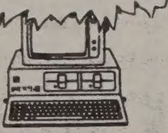
TANSTAAFL
Manufacturing, Inc.
1800 Wyatt Drive, Suite 6
Santa Clara, CA 95054
(408) 748-9330

TRI-NATIONAL *Computer*
13075 SPRINGDALE ST. WESTMINSTER, CA 92683 (LUCKY SPRINDGALE CENTER)

PHONE: (714) 893-1888
OPEN HOURS MON-SAT 9-7

Turbo XT ***SPECIAL***

~~$435~~
$415



- 4.77/8 MHz
- 256 K RAM on board (Exp. to 640K)
- Two 360 K FDD - 150 W PS
- AT style keyboard
- AT look-alike case w/3 LED's

MONO SYSTEM ADD $120
COLOR SYSTEM ADD $295
EGA SYSTEM ADD $475
20 MB HD SEAGATE ADD $270
30 MB HD SEAGATE ADD $290

AT-286
- 6/10 MHz AT Mother board 80286
- 512 K RAM (Exp. to 1 MB)
- 360 KB Drive w/HDFD controller
- 101 Enhanced Keyboard – 200 W. PS
- MGP and Monochrome Monitor
- AT Deluxe case (keylock, 3 LED's...

***Only* $875**

Optional
- Mother board (USA Made) ADD $224
- 40 MB HD SEAGATE 251 ADD $390

AT-286 PORTABLE SI=11.2

$1,195

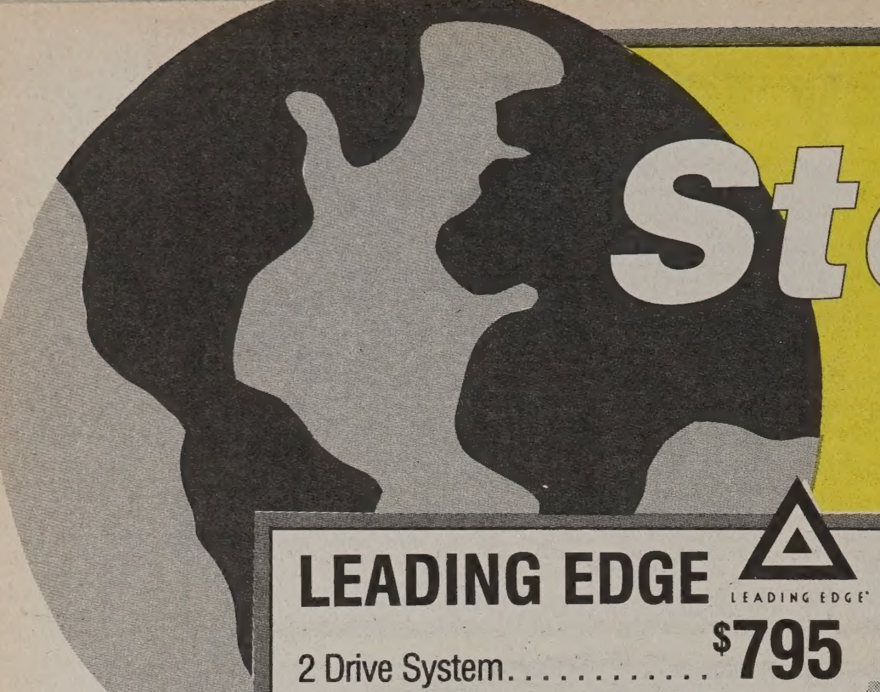
Price subject to change without notice

16 MHz-386
80386-16 Mother board (USA Made)
- 1 MB RAM on board (Exp. to 4 MB)
- 200 W Power Supply
- WA2 HD/FD controller
- 101 Enhanced Keyboard
- 1.2 MB Drive
- AT Deluxe case
- MGP and Monitor

$1,990

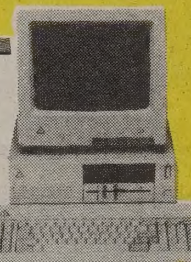
All systems are fully tested
& assembled with 1 year warranty
IN-HOUSE TRAINING
CUSTOM-DESIGN SOFTWARE

AT & XT are registered trademark of IBM



Step Into A World Of Savings

LEADING EDGE



2 Drive System	$795
1 Drive, 20 MEG System	$995
1 Drive, 30 MEG System	$1050

ALL SYSTEMS INCLUDE MS DOS, GW BASIC & MANUALS

COMPAQ®

Deskpro

286 20 MEG	$1997
40 MEG	$2097
386 40 MEG 16 MHz	$3895
60 MEG 20 MHz	$5195
Portable 20 MEG	$3375
40 MEG	$3875

ALL OTHER MODELS—CALL

IBM

Model 30-002	$1195
Model 30-021	$1695
Model 50-021	$2445
Model 60-041	$3195
Model 60-071	$3595
Model 80's	CALL
IBM AT 068/339	CALL

WE WILL TRY TO BEAT ANY PRICE!

AST Premium 286
RESEARCH INC.

512K, 1.2 MEG Dr, 20 MEG HD	$2095
512K, 1.2 MEG Dr, 40 MEG HD	$2195
AST 386	All Models In Stock

Systems come complete with DOS Basic, Keyboard, and operation manuals.

*NEC MULTISPEED PORTABLE COMPUTER

4.77/10MHz switchable (NEC V-30 chip) 640K RAM dual 3.5″ 760K drives S twist LCD, 640Kx200 resolution built-in, pop-up firmware DOS 3.2

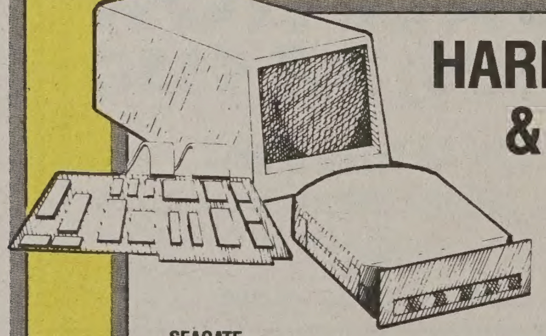
EL. . .$1399
HD. . .$2099

TOSHIBA PORTABLE

T1000	$799
*T1200	$2199
*T3100-20	$2999
*Zenith Portables	CALL
T3200	$3499
T5100	$4499

*Internal 1200b modem for above laptops $199
*Internal 2400b modem for above laptops $279

HARD DISKS & DRIVES



CALL FOR LATEST PRICE

SEAGATE

ST225 20MB	$209
Same with controller	$269
ST238 30MB	$235
Same with controller	$289
ST251 40MB	$359
Same with controller	$409
ST251-1 40MB	$449
ST4053 40MB	$449
ST4096 85MB	$685

MINISCRIBE

3650 40MB	$325
3053 40MB	$535
6053 40MB	$495
6085 80MB	$699

IRWIN TAPE BACKUP

20MB Internal	$325
20MB External	$455
40MB Internal	$429
40MB External	$525

MISCELLANEOUS

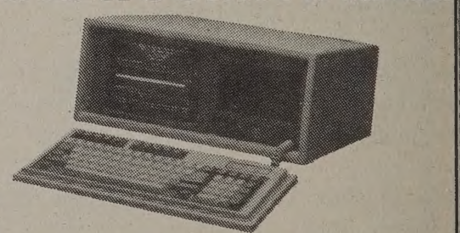
360K Floppy Drive	$79
1.2 MEG Floppy Drive	$89
3½″ 720K Drive	$99
3½″ 1.44 Drive	$119

Call for Pricing on Archive, Micropolis, Teac and Fujitsu Drives

PRINTERS

Star NX1000	$179
HP Laser Jet II	1599
LX800	CALL
Epson FX86	CALL
Epson FX286e	CALL
Epson LQ850	CALL
Epson LQ1050	CALL
Epson EX800	CALL
Epson EX 1000	CALL
Okidata 292 enhanced	545
Okidata 293 enhanced	695
Okidata 294	1095
Toshiba P 321 SL	479
Toshiba P 341 SL	679
Citizen MSP 15	339
Citizen MSP 20	CALL
Citizen MSP 40	315
Citizen MSP 55	471
Citizen 120D	160
Citizen 180D	179
Citizen Premiere 35	525
Citizen Tribute 224	635
10′ Parallel Printer Cable	15

MEGA COMPUTER SYSTEMS COMPAQ PORTABLE II COMPATIBLE



CALL FOR PRICE

Available in three systems—XT, Turbo, Baby AT and 80386.

All systems are compatible and run the most popular software and hardware products designed for IBM PC.

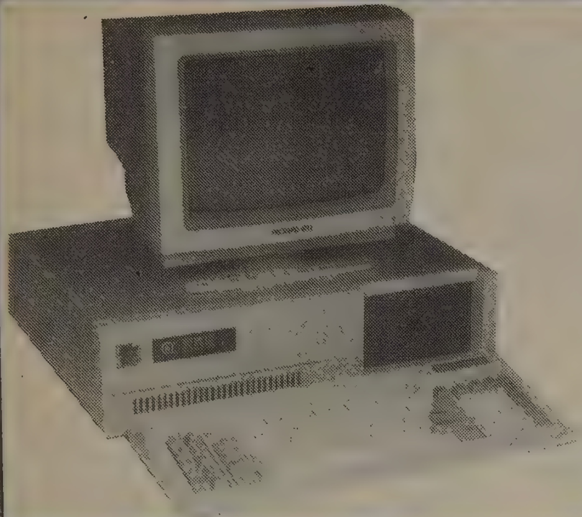
Features:
- Keyboard, 8-key ALPS tactile mechanical keyswitch XT/AT switchable.
- Monitor, 9″ dual frequency monitor. High resolution 750 lines (center), 600 lines (corner).
- Power Supply, 180W, 110/220V switchable.
- Weight, 8.5kg in the CKD form (without motherboard, interface card and disk drive). 11.8kg for full system.

All prices subject to change without notice

(213) 618-8864

FAX: (213) 618-8543

ALL SALES ARE FINAL
NO RETURN WITHOUT AUTHORIZATION NUMBER
ALL UNAUTHORIZED RETURNS SUBJECT TO 25% RESTOCKING CHARGE
3% charge on all C.O. D. orders
3% shipping and handling
(minimum $5 s/h on all shipped orders)



COMPUTER SYSTEMS

8088-1 XT

- 10/4.77 MHz switchable
- Compatibility - by far the best and most compatible bios. We guarantee that MS-DOS software will operate flawlessly; Lotus, Symphony, Flight Simulator, Wordstar 2000, Word, DBase, RBase, the list goes on and on . . .
- One high quality 360K floppy drive. (Our head technician checks each one.)
- FREE monochrome monitor with Hercules-compatible graphics card.
- Floppy drive controller
- 256K memory (You can upgrade to 640K on the motherboard.)
- Slot for 8087 math co-processor.
- 1 parallel printer port
- AT-style keyboard
- 8 expansion slot motherboard
- Continuous and heavy duty 150 Watt power supply
- Key lock for security
- Turbo light - No guessing! If it's green, it's Turbo
- Modern styling
- FCC Class B approved

$495

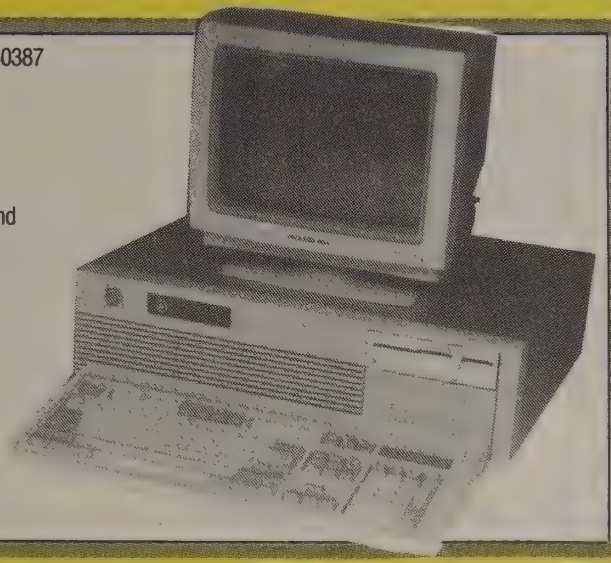
COMPUTER SYSTEMS

80386

- 16/8/6/4.77 MHz switchable
- 8/16 MHz, no wait state (Upgradeable to 20 MHz)
- Compatibility - by far the best and most compatible bios. We guarantee that MS-DOS software will operate flawlessly: Lotus, Symphony, Flight Simulator, Wordstar 2000, Word, DBase, RBase, the list goes on and on . . .
- 1024K memory - High quality pretested chips (640K base; 384K extended, 32 bit 0 wait state). Expandable to 10 meg.
- Battery backed up clock calendar
- 1 parallel port
- Socketed for 80287 math coprocessor (Optional 80387 adapter board.)
- 1 serial port (second port $20 additional)
- 8 layer motherboard
- 8 FULL expansion slots
- Enhanced keyboard
- High-resolution monochrome monitor with a tilt and swivel base. Hercules compatible.
- 1.2MB floppy drive
- 3 half-high external device slots
- 2 half-high internal device slots
- 200 watt power supply
- FCC approved
- Floppy/hard disk controller

$1995

20 MHz - $2595



12 MHz - $1095

COMPUTER SYSTEMS

80286

- 10/6 MHz switchable
- 0 or 1 wait state
- Compatibility - by far the best and most compatible bios. We guarantee that MS-DOS software will operate flawlessly: Lotus, Symphony, Flight Simulator, Wordstar 2000, Word, DBase, RBase, the list goes on and on . . .
- 8 expansion slots to fill all of your expansion needs
- Turbo light - No guessing. If it's lit, it's Turbo
- 512K memory - High quality pre-tested chips (upgradeable to 1 MB on the motherboard.)
- FREE amber monitor and Hercules compatible graphics card.
- High resolution graphics - both the monitor and display card are Hercules compatible.
- We even give you a tilt and swivel based monitor for your comfort.
- One high quality floppy drive. 1.2 Meg or 360K. (Our head technician checks each one.)
- 200 Watt power supply
- AT style keyboard with 10 function keys
- 1 parallel port
- Slot for math co-processor 80287
- A clock calendar for automatic time and date with battery backup.
- FCC Class B approved.
- Floppy/hard disk controller

$995

OPTIONS

(Sold with complete system)

EGA exchange with EGA monitor and special EGA card monitor and 132 column card 640 x 350 resolution . . . **$349**
Multisync style multiscan w/monitor and 132 col. card . . . **$449**
CGA exchange complete with CGA card and monitor . . . **$199**
(EGA, CGA and Multisync exchange replaces monochrome card and monitor.)
8087 or 80287 math coprocessor . . . **$CALL**
Enhanced 101 keyboard . . . **$25**
DOS 3.3 . . . **$89**
Serial Mouse with Paint . . . **$79.95**
300/1200 baud modem w/ software . . . **$89.95**
2400 baud modem w/software . . . **$169.95**
360K floppy disk drive . . . **$79**
1.2 Meg floppy disk drive . . . **$89**
3½″ 720K floppy disk drive . . . **$99**
3½″ 1.44K floppy disk drive . . . **$119**

Software World

(213) 618-8864

FAX: (213) 618-8543

Experienced Sales Representatives Wanted

20655 S. Western #104
Torrance, CA 90501

PC/XT/AT COMPATIBLES
LOWEST PRICES LEADER
KATRONICS TECHNOLOGY INC.
Excellence in Quality - Services - Supports

14382 HOOVER ST., SUITE A9
WESTMINSTER, CA 92683

(714) 895-2084 **(714) 897-3234**

- ATTRACTIVE DISCOUNT FOR DEALER and QUANTITY BUYERS
- SPECIALS and DISCOUNTS FOR STUDENTS and PROFESSORS ID REQUIRES

XT—TURBO—88

- DELUX CASE 2 BUTTONS, 3LED'S
- 150W POWER SUPPLY
- XT MOTHERBOARD 4.77/10 MHz
  W/0KB RAM ON BOARD EXP. UP TO 640K
- MULTI I/O (Ser., Par., Game PORTS CLOCK, BAT
- TWO FLOPPY DRIVE
- DISPLAY ADAPTOR
- MONITOR
- FULLY ASSEMBLED AND TESTED

	MONO SYSTEM	COLOR SYSTEM	EGA SYSTEM
	$499.00	**$625.00**	**$815.00**
20MB (28MS)	$765.00	$899.00	$1099.00
30MB (38MS)	$864.00	$999.00	$1199.00

PORT—AT—286

✱ SI 13.5

$960.00

- MONITOR (Amber)
- PORTABLE CASE
- 195 W POWER SUPPLY
- Baby AT MOTHERBOARD CPU 286
  0K RAM EXP. UP TO 4MB
- COMBINATION FDD/HDD CONTROLLER
- 1.2 MB FLOPPY DRIVE
- AT STYLE KEYBOARD
- AT I/O (serial, par., game ports)
- MONO GRAPHIC ADAPTER
- FULLY ASSEMBLED AND TESTED

PORT-XT-88 ....> ONLY **$730.00**

LCD—AT—286

✱ SI 13.5

$1199.00

- LCD DISPLAY BACKLIGHTING
- 195 WATTS POWER SUPPLY
- AT STYLE KEYBOARD
- Baby AT MOTHERBOARD CPU 286
  W/0KB RAM EXP. UP TO 4 MB
- COMBINATION FDD/HDD CONTROLLER
- 1.2 MB FLOPPY DRIVE
- AT I/O (Ser., Par., Game PORTS)
- FULLY ASSEMBLED AND TESTED

LCD-XT-88 ....> ONLY **$960.00**

AT—386—SYSTEM

✱ SI 20

- DELUX CASE, 1 BUTTON, 3 LED'S
- 200 WATTS POWER SUPPLY
- MOTHERBOARD CPU 386-20
  1MB RAM ON BOARD EXP. UP TO 4MB
- COMBINATION FDD/HDD CONTROLLER
- 1.2 FLOPPY DRIVE
- ENHANCED 101 KEYS KB (USA)
- 60 MB HARD DISK (38ms)
- DISPLAY ADAPTOR
- MONITOR

	MONO	COLOR	EGA
US-386	$2799.00	$2936.00	$3149.00
MICRO-386	$2569.00	$2720.00	$2935.00
MYLEX-386	$3199.00	$3259.00	$3379.00

PRINTER

PANASONIC 10911	ON SALE
EPSON LX800	L.PRICE
EPSON LQ500	$350.00
EPSON FX286E	$430.00
EPSON LQ1050	CALL
EPSON EX1000	CALL

KEYBOARD

101 KEYS KEYTRONICS	ON SALE
84 KEYS	$35.00

SOFTWARE

EXPANDED MEMORY MANAGE FOR 286 & 386 EXTENDED MEMORY	$69.00
EXPANDIR	$42.00
LOTUS 123	CALL
MICROSOFT WINDOW	$55.00

WD—AT—286

- DELUX CASE, 1 BUTTON, 3 LED'S
- 200 WATTS POWER SUPPLY
- WESTERN DIGITAL 12.5 MHz 286
  MAIN BOARD
  - BUILD-IN 512 KB RAM EXP. UP 4 MB
  - BUILD-IN INTEL 12.5MHz 80286
  - BUILD-IN EGA, CGA, MGA
  - BUILD-IN FDC SUPPORTS UP TO 4 DR'S
  - BUILD-IN HARD DISK CONTROLLER
  - BUILD-IN 2 SERIAL AND PARALLEL PORTS
  - BUILD-IN PS/2 COMPATIBLE MOUSE PORT
  - BUILD-IN EXP. SLOT 3 (16BIT) 1 (8BIT)
  - BUILD-IN CMOS CLOCK
  - BUILD-IN 80287 MATH CO-PROCESSOR SLOT
- 1.2 MB FLOPPY DRIVE
- 40 MB HARD DISK
- 101 KEYS KB KEYTRONIC
- MONITOR

MONO SYSTEM	COLOR SYSTEM	EGA SYSTEM
$1420.00	**$1575.00**	**$1685.00**

AT—286 SYSTEM

- DELUX CASE, 2 BUTTON, 3 LED'S
- 200 WATTS POWER SUPPLY
- MOTHERBOARD CPU 80286 W/ 0K RAM EXP. TO 1 MB
- COMBINATION FDD/HDD CONTROLLER
- 1.2 FLOPPY DRIVE
- ENHANCED 101 KEYS KEY BOARD
- DISPLAY ADAPTOR
- 60 MB HARD DISK ST277R (28 ms)
- MONITOR

	MONO	COLOR	EGA
TW 6/10MHz	$1147.00	$1279.00	$1499.00
TW 8/15MHz	$1249.00	$1379.00	$1599.00
US 8/12MHz	$1349.00	$1484.00	$1699.00

- TW Taiwan Made Motherboard
- US US Made Motherboard

INTERFACE CARD

COLOR GRAPHIC CARD	$42.00
MONO GRAPHIC CARD	$43.00
EGA CARD	CALL
VGA CARD	CALL
MULTI I/O	$49.00
PRINTER CARD	$16.00
SERIAL CARD	$17.00
GAME CARD	$16.00
AT I/O	$45.00
COMBO FDD/HDD WA2	$110.00
HARDISK WD-WX1	$59.00
HARDISK WD-RLL	$62.00

MODEM

EVEREX 1200	$79.00
EVEREX 2400	CALL
ROBOTICS 1200	$65.00
MASTERCOM 2400	$110.00

TOWER SYSTEM available

HARD DISK

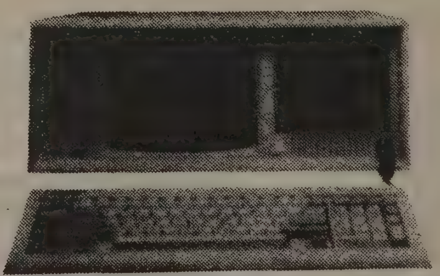
20 MB ST225 W/O CONTR	$205.00
20 MB ST225 W/CONTROLLER	$265.00
30 MB ST238 W/O CONTR	$230.00
30 MB ST238 W/CONTROLLER	$285.00
80 MB ST 4096	L.PRICE
30 MB FUJI W/CONTROLLER	$305.00
ST251 40 MB	ON SALE
ST251-1	L.PRICE
ST277R 60MB	CALL

MONITOR

RGB SAMSUNG	$225.00
EGA SAMSUNG	$345.00
RGB MITSUBISHI	CALL
TAXAN	CALL
TATUNG MONITOR	CALL

MEMORY CHIPS

4164-15	L.PRICE
4164-12	CALL
4464-12	CALL
4464-15	CALL
256-15	L.PRICE
256-12	CALL
256-10	CALL



We Do
NETWORKING

✱ *ALL SYSTEMS ONE YEAR WARRANTY PARTS & LABOR*

✱ *PRICES AND SPECIFICATIONS SUBJECT TO CHANGE W/O NOTICE*

Calendar Of Events *continued*

July 19 Introduction To The PC Hands-On Workshop. West Los Angeles. Call PC Workshop at (213) 470-8600.

July 19 How To Train And Orient Employees Seminar. Emerald of Anaheim. Call Keye Productivity Center, 1-800-821-3919.

July 19 – 21 Building Expert Systems: Tools And Technology UCLA Short Course. Call (213) 825-1901.

July 19 – 22 Digital Signal Processing: Real-Time Hardware Design Course. Los Angeles. Call Integrated Computer Systems, 1-800-421-8166.

July 20 How To Train And Orient Employees Seminar. Sheraton Santa Barbara Hotel and Spa. Call Keye Productivity Center, 1-800-821-3919.

July 21 How To Train And Orient Employees Seminar. Bistro at Sheraton Valley Inn, Bakersfield. Call Keye Productivity Center, 1-800-821-3919.

July 25 – 28 Real-Time Software Systems: Analysis, Validation And Quality Management UCLA Short Course. Call (213) 825-1901.

July Introduction To Word Processing Hands-On Seminar. West Los Angeles. Call PC Workshop at (213) 470-8600.

August 9 – 15 1st Computer Olympiad. Thinking games played against computers. Park Lane Hotel, London, England. Send a large stamped, self-addressed envelope to: Computer Olympiad, 11 Loudon Road, London, England.

August 20 Computer Swap Meet. Orange County Fairgrounds, Costa Mesa. Call RK Productions at (800) 252-7927 for information.

August 27 Computer Swap Meet. Los Angeles County Fairgrounds, Pomona. Call RK Productions at (800) 252-7927 for information.

September 7–10 Software Publishers Association 4th Annual Conference. Washington, D.C. Call (202) 452-1600 for more information.

September 13–16 Digital Signal Processing: Techniques & Applications Course. San Diego. Call Integrated Computer Systems, 1-800-421-8166.

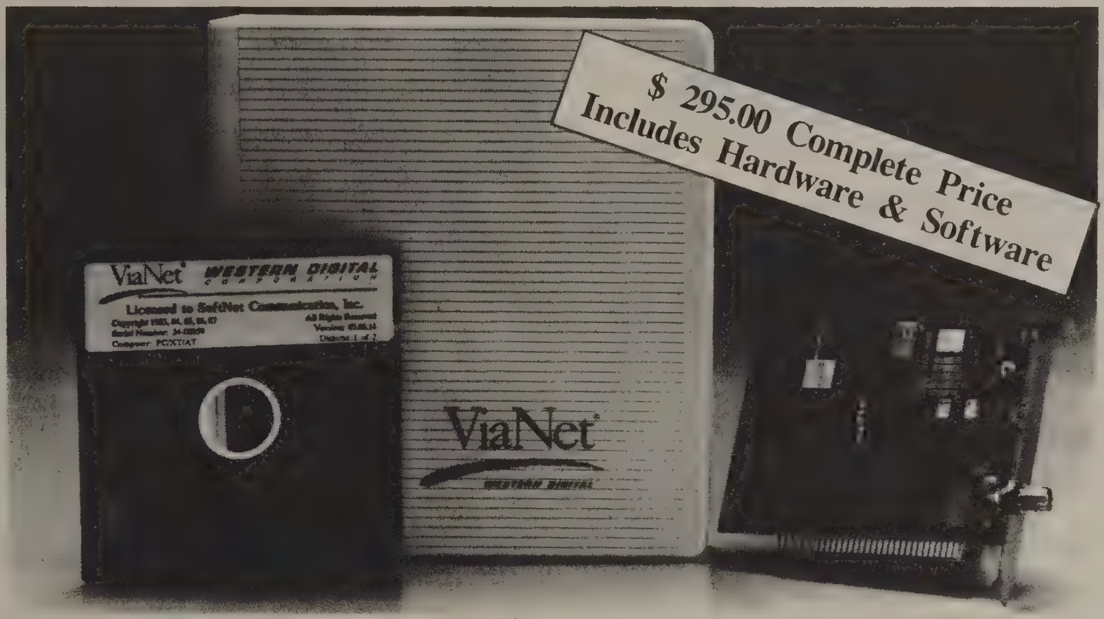
September 26 – 28 Knowledge Acquisition For Expert Systems UCLA Short Course. Call (213) 825-1901.

September 28 – 29 Interactive Video '88. Los Angeles Airport Hilton and Towers. International Interactive Communications Society (IICS). Call Ken Christie, President, (402) 488-3472.

As a community service, MicroTimes lists trade shows, seminars, and other special events in the Calendar of Events free of charge on a space-available basis. To improve the likelihood of your listing's timely inclusion, please make sure we have the necessary information no later than the first of the month two months before the cover date of the issue in which you'd like it to appear (i.e. the deadline for the March issue, on the street in February is January1). Send to: MicroTimes Calendar of Events, 5951 Canning St., Oakland, CA 94609.

News about user group meetings and other regularly scheduled activities should be sent to User Group Network at the same address.

ViaNet & KAL1000
Local Area Network
The Perfect Pair!!!



The performance leader of all LAN systems based on Western Digital's ViaNet (R) software.

- 2 Mega bits/sec
- Serverless, fully distributed
- Supports DOS 3.xx
- Can share All resources
- Unix-like DOS shell
- Password Protection
- File & Record lock
- Easy to install & use

SoftNet
Communication, Inc.

Call Toll Free!
(800) 533-1157
15 Hillcrest Drive, Great Neck, NY 11021 (516) 829-6536

Genius Mouse + TopDOS $69.00

Genius Mouse GM-6 ST
* Microsoft Serial Mouse compatible.
* Menu Maker & Universal Mouse Driver.
* Mouse Pocket.
* No pad, use standard RS-232C.
* Super high resolution: 200DPI.
* Super Tracking speed: 500mm/sec up.
GM-6 Mouse ST..........$49.00
add TopDOS Software..........$69.00
add FrontPage Personal Publisher Software..........$109.00
GM-6 Plus Mouse
with Dr. Halo III Graphics..........$59.00
add TopDOS Software..........$79.00
add FrontPage..........$119.00

Dealers & Distributors Welcome!

2001 Sales, Inc.
16580 Harbor Blvd., Ste A,
Fountain Valley, CA 92708
(714) 531-6551
Please add $5.00 for S&H. Check or Money Order. CA resident add 6% Sales Tax.
Mouse with One year Limited Warranty.

TopDOS Software
* Enhances DOS commands such as CLS, DIR, COPY, DEL, and TREE.
* Adds powerful new DOS commands such as MOVE, MACROS, EGA, STUFFKEY, HISTORY, WHEREIS, CLUSTER, EDIT, CLEAR, TREECOPY and HELP.
* Makes hard disk file management effortless.
* Works with Mouse, LAN and PS/2.
Look what InfoWorld said about TopDOS ..... "As a program that offers to improve DOS, TopDOS is a MARVEL."
TopDOS listed at $69.95 Special: $34.95
TopDOS demo program.......... $3.00
FrontPage listed at $199.95 Special: $99.95

NEWS
AND ANALYSIS

BY PAUL HOFFMAN

IN THE NEWS . . .

US Copyright Office On Look And Feel 14

Apple-Microsoft Lawsuit Divided 14

Apple Buys Orion Systems . 14

IBM Exempts Chips And Technologies In PS/2 Licensing .. 16

Surprising Delay In Lotus Case 16

Money-Back Excel Guarantee 16

New Computer Books 16

Dissident UNIX Group Formed 18

Philips Wins Patent Suit 18

Paradox For OS/2 20

Microsoft's Mac Product Announcements 20

RISC Chip For PostScript 21

HP To Market Zenith Portable 21

HyperCard Whole Earth Catalog 21

New HyperCard Release 22

Sony's 68030 Workstation .. 22

Novell To Support Macintosh 22

IBM's New PS/2 Machines ... 22

Paul Hoffman is an industry analyst who has been covering microcomputer technology for ten years. He can be reached on USENET (phoffman@well) and MCI Mail (264-3171). He also writes popular microcomputer books.

Did US Copyright Office Remove Key Look And Feel Wording Under Pressure?

In an important new decision, the Copyright Office of the U.S. (part of the Library of Congress) has decided that all copyrights for a program must be included in a single registration for that program. This means that if a software company wants to copyright the screens in a program, it must do so at the time of registration as part of the registration for the software; it cannot decide later to also copyright the screens. This ruling only pertains to new copyrights, and the decision notes that "recent judicial decisions do not yet lend clear guidance on the copyrightability of screen displays."

The wording of official notice ("Notice of Registration Decision: Registration and Deposit of Computer Screen Displays [Docket No. 87-4]") apparently shook up some players in the legal and software industries. In the notice sent out by the Copyright Office on June 6, signed by the Registrar of Copyrights and the Librarian of Congress, the Copyright Office stated clearly that the copyright applicant had only a limited number of choices of what to fill in on the copyright form for the description of what is being copyrighted. The allowable descriptions were listed as "entire work," "computer program" and "computer program code and screen displays." Any screens that were to be copyrighted must be represented in the application.

The official notice then went on to say, "Applicants should not refer to uncopyrightable elements such as 'menu screens'; 'structure, sequence, and organization'; 'layout or format'; and the like." To many, this indicated that the Copyright Office believes that these elements are uncopyrightable.

Apparently, the Copyright Office came under some intense pressure during the week, because by the time the notice appeared in the *Federal Register* on June 10, the word "uncopyrightable" had disappeared from the sentence. According to Dorothy Schrader, General Counsel to the Copyright Office, the change between the signed decision and the publication in the *Federal Register* "had been requested by others," but she refused to say who those others were. Clearly, any software company trying to copyright menu screens, structure, sequence, organization, layout or format would be very concerned if the Copyright Office had decided that those were not copyrightable. Since copies of the decision with the word "uncopyrightable" were widely distributed, there may be a case in either direction.

Judge Divides Apple Lawsuit In Two Parts

Microsoft successfully divided the lawsuit against it by Apple in two parts, assuring that the breach of contract portion is heard before the copyright questions. Apple wanted both sets of arguments heard in one trial in order to show how the contract related to their copyright case; Microsoft wanted the trials

Apple Buys Orion Network Systems To Increase Foothold In SNA Market

Another month, another acquisition. Apple continued its spree of purchasing communications company by buying Orion Network Systems, a vendor of SNA connection software. SNA (IBM's System Network Architecture) is one of the major protocols for communication in the IBM mainframe arena.

Orion is no stranger to Apple, having developed *MacAPPC* for Apple and helping Apple to get a better hold on the Mac-to-mainframe market. Orion, an eight-year-old software company in Berkeley with 30 employees, sells its software interfaces to other OEMs as well as to Apple. Under the purchase agreement, Orion becomes a wholly-owned subsidiary of Apple but will be able to continue licensing its software to other vendors. Apple will place executives such as Jean-Louis Gassee on the Orion board of directors, but will probably not do much to change Orion's focus on SNA.

While Orion will certainly be giving Apple the first crack at new products and releases, the acquisition gives Orion clout with larger Apple customers who want to link Macintoshes into existing IBM networks.

Microsoft Days!

SEE MICROSOFT'S NEWEST MAC RELEASES

Free Demonstraions / Free Software

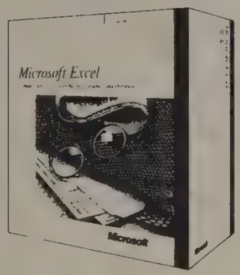
NEW VERSION-POWER POINT 2.0

Microsoft Power Point
3M

PowerPoint 2.0 boasts full color support for the Mac II, a host of dazzling background shading effects, and a spell checker and thesaurus. It can also import graphics in MacPaint, PICT, PICT III, and EPS (used in Illustrator and Freehand) formats.

$249

NEW VERSION-EXCEL 1.5



Excel 1.5 now has full color support for spreadsheets and charts, completely customizeable dialog boxes and menus, and additional math functions.

$259

NEW VERSION-FILE 2.0

Microsoft File
Microsoft

File 2.0 includes a sampler disk containing every form made by leading form maker Avery. File 2.0 also has enchanced mail merge capability with Word, improved speed, and a custom mailing labels format.

$139

WORD 4.0

Microsoft Word
Microsoft

Microsoft Word is the best selling Mac word processor in the world. Period. Word 4.0 offers integrated outlining, customizable command menus, style sheets and long document support.

$249

SEE MICROSOFT EXCEL AND WORD FOR MSDOS

MICROSOFT EXCEL

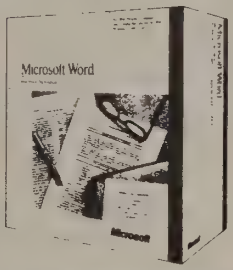
- Simple Display and Linking of Multiple Worksheets
- Annual Report Quality Graphics
- 256 Column by 16,384 Rows
- Macro Translator for 1-2-3 Macros
- Intelligent Recalc

Microsoft Excel
Microsoft

MICROSOFT WORD 4.0

for MSDOS Personal Computers is the state of the art word processor

- Full "WHAT YOU SEE IS WHAT YOU GET" Support
- Enhanced Printer Support
- Full Networking Capability



DEMONSTRATIONS OF PC EXCEL AND PC WORD EVERY HOUR

Tuesday, July 7, Newport Beach Marriott • 11:00a.m.–5:00p.m.
Wednesday, July 13, Los Angeles Hyatt Regency • 11:00a.m.–5:00p.m.

•

DRAWINGS FOR DOZENS OF FREE SOFTWARE PROGRAMS

•

For Reservations or 800-SOFTWARE'S Free Catalogue
Call 800-225-9273, extension 880

800-SOFTWARE

11645 Wilshire Blvd., Los Angeles, California • 213-820-8009 separate in order to show that it could not have violated any copyright since Apple had already granted them license to any copyright that Apple might have had. Judge Robert P. Aguilar accepted the motion, called a "motion to bifurcate," based on the size of the case and the fact that all federal courts have huge backlogs of cases. The judge stated that the first case will be only on the scope of the original licensing agreement.

If Microsoft is successful in the first part of the case (which may be heard in October or November), they will have a much stronger legal case to throw out the entire matter and probably receive damages from Apple for lost business and a tarnished reputation. In the meantime, Hewlett-Packard, the other defendant in the case, is trying to get one of Apple's main law firms disqualified from the case because that firm had also done work for Hewlett-Packard. The firm, Fenwick, Davis, and West of Palo Alto, denies that it did significant work for Hewlett-Packard.

Microsoft has taken the offensive in the publicity war on the case, sending out copies of the bifurcation order. Initially, Apple had taken the upper hand in publicizing the case, but has pulled back significantly. The next step in the case is "discovery," where lawyers for each side question relevant employees of the opposing side in order to find out what they can about the facts that they can use in their cases. Judge Aguilar castigated lawyers for both sides for not estimating the amount of time that they might need to perform discovery, calling the lawyers "exceptionally uncooperative."

IBM Exempts Chips And Technologies From Licensing Requirement

According to Chips and Technologies, IBM has exempted them from having to license IBM's PS/2 technology because C&T only produces the chips for the clones, not the clones themselves. However, companies making clones using C&T's chip sets will still have to license the patents from IBM directly. The announcement cleared up some confusion as to who had to procure the licenses and who didn't. C&T indicated that it would help any clients to deal with IBM on the technology licensing, however. In an interesting note in the announcement, C&T indicated that, if IBM changed its mind on the agreement in the future, C&T would be able to get such a license on IBM's "standard terms."

In a related announcement, Dell Computer announced that it had reached an agreement with IBM to license the the appropriate patents so that Dell could make two models of PS/2 clones. At the same time, Dell agreed to pay retroactive payments to IBM for its previous cloning of the IBM PC. By doing this, Dell is one of the first companies to come clean with what IBM believes to be its proprietary technology. Dell is one of the fastest-growing clone manufacturers who sell their own systems.

Almost A Ruling In Lotus Case

To the extreme frustration of all the lawyers in the ongoing Lotus lawsuits, Federal Magistrate Joyce Alexander removed herself from the case on no notice when she remembered that her brother works for Lotus.

After having the cases (*Lotus v. Paperback Software, Lotus v. Mosaic, SAPC v. Lotus*) before her for many months, she was about to make the first rulings in the case. Over 20 lawyers from all the parties, as well as lawyers from unnamed parties in the case, had assembled in Magistrate Alexander's courtroom. She began to read the names of the cases when she suddenly realized why the name "Lotus" was so familiar. "I have to recuse [voluntarily withdraw] myself from these cases: I just remembered that my brother works for Lotus!"

Lawyers for Lotus immediately announced that they had no idea of the relationship. Although she refused to name her brother, Lotus later said that Magistrate Alexander's brother works in the distribution department. The case will go before a new magistrate and the arguments will be resubmitted shortly.

Don't Like Your Excel For The PC? Return It For A Refund

If you're tired of software warranties that don't let you return defective or simply unattractive software, Microsoft has a deal for you. At any time until January 1, 1990, you can return your copy of *Excel for the PC* to your dealer and receive your money back (Microsoft will, of course, reimburse the dealer).

This unprecedented move is an effort to keep *Excel* sales strong while people wait for Lotus *1-2-3*

New Computer Books Announced At American Bookseller's Association

The fall lineups of microcomputer books were announced at the annual ABA conference in Anaheim at the most widely-attended book conference in the US. The conference, held by the bookseller's trade group, is usually where most computer books for the duration of the year are announced and, in some cases, shown in advance.

Although microcomputer books rarely produce any blockbusters (Danny Goodman's *Complete HyperCard Handbook* being one of the recent exceptions), computer book publishers always hope to get enough notice from the bookstores to get them to carry their particular titles. There has always been a problem with bookstores not understanding how to shelve and display computer books, so each publisher was trying hard to get into the limited space allotted for computer books by stores.

The big topics for new books this year will be OS/2, *HyperCard*, *Excel* for the PC, and *Quattro*, with almost every publisher vying for those markets. Books on *WordPerfect* remained popular throughout last year, so there will be a host of new ones, most of them revised for *WordPerfect* version 5. Lotus' slowness in getting out *1-2-3* version 3 and Ashton-Tate's delay for *dBASE IV* played havoc with some publishers' fall lists, since they didn't know when they could assume that the books would be ready to publish. Many publishers will have to miss publishing deadlines due to the software not being complete enough for them to finish their books.

At the meeting, the heads of most of the computer book publishers met to try to form a trade association. However, most felt that it was premature to do so and the benefits of such an association weren't clear. They will meet again this fall at COMDEX.

Some of the interesting highlights of the computer book lists that will be available between now and October include:

- **Microsoft Press** — *SQL Handbook* by the folks at Sybase; *The World of Mathematics* by James Newman, a revision of the classic library that has been out of print for many years.
- **Brady** — *The Paul Mace Guide to Data Recovery* by the creator of the popular recovery package; Brady is now the publisher for the Ashton-Tate Computer Book line.
- **TAB** — *The Frozen Keyboard: Living with Bad Software* by Boris Beizer.
- **Addison-Wesley** — *The Lotus Guide to 1-2-3* by David Bookbinder, the official guide from Lotus; *Real World PostScript* edited by Stephen Roth, a collection of articles on programming in PostScript.
- **Wiley** — *Introducing C to Pascal Programmers* by Namir Shammas.
- **Bantam** — *Revision of Complete HyperCard Handbook* by Danny Goodman to cover version 1.2; *The HyperCard Developer's Guide*, also by Danny Goodman.
- **MIS:Press** — *XCMD's for HyperCard* by Gary Bond.
- **Facts on File** — *Blue Magic* by James Chposky and Ted Leonsis, about the internal IBM politics that shaped the IBM PC and PS/2.
- **Contemporary Books** — *The Ultimate Entrepreneur: The Story of Ken Olsen and Digital Equipment Corporation* by Glenn Rifkin and George Harrar.
- **Howard Sams** — *MS-DOS Papers by the Waite Group*, advanced articles for programmers.
- **Goldstein & Blair** — *The Macintosh Bible*, Second Edition edited by Arthur Naiman, the top-selling Mac tip book.

Also announced at the show was *Chance*, a new magazine on statistics and computers from Springer-Verlag. *Chance* is an interesting, non-academic view of statistics and statistical thinking applied to computers.

You will be very fond of ...

FOND DATA 88 AND 286 !

- RELIABILITY
- TESTED, BURNED-IN
- FCC APPROVED
- COMPATIBILITY
- 1 YEAR WARRANTY

Color: ADD $144.00
EGA: ADD $344.00

***NOTE:**
ALL SYSTEMS PRICES ARE WITHOUT MEMORY CHIPS.

FOND DATA 88
DIAMOND VERSION

MODEL X2F $437.00*	• IBM PC/XT COMPATIBLE • 8088-1 CPU • CASE w/RESET, TURBO BUTTONS, KEYLOCK SWITCH, LED INDICATORS FOR POWER, TURBO AND HARD DRIVE • 150W POWER SUPPLY • 4.77/10 MHZ MOTHER BOARD WITH 0 K • KEYTRONIC 101 KEY KEYBOARD • MONOCHROME CARD W/PRINTER PORT • FLOPPY DISK CTRL W/CABLE • 2 FUJITSU 360K FLOPPY DRIVE OR JAPAN MADE EQUIVALENT • 12" FLAT SCREEN AMBER MONITOR W/T & S BASE • ASSEMBLED, TESTED, 72 HR BURNED-IN
MODEL XHF $664.00*	• SAME AS ABOVE, EXCEPT: • SEAGATE 20M HARD DRIVE W/CTRL • 1 FUJITSU 360K FLOPPY DRIVE OR JAPAN MADE EQUIVALENT

FOND DATA 286
DIAMOND VERSION

MODEL A1F $615.00*	• IBM AT COMPATIBLE • 80286 CPU • ZERO WAIT STATE AVAILABLE • CASE W/RESET, TURBO BUTTONS, KEYLOCK SWITCH, LED INDICATORS FOR POWER, TURBO & HARD DRIVE • 200W POWER SUPPLY • 6/10 MHZ MOTHER BOARD WITH 0 K • KEYTRONIC 101 KEY KEYBOARD • MONOCHROME CARD W/PRINTER PORT • AT FLOPPY DRIVE CTRL. W/CABLE • FUJITSU 1.2M, 5¼" FLOPPY DRIVE OR JAPAN MADE EQUIVALENT • 12" FLAT SCREEN AMBER MONITOR W/TILT & SWIVEL BASE • 8 EXPANSION SLOTS (6 16-bit; 2 8-bit) • ASSEMBLED, TESTED, 72 HR BURNED-IN
MODEL AHF $921.00*	• SAME AS ABOVE, EXCEPT: • WA2 HARD & FLOPPY DRIVE CTRL • SEAGATE 20M HARD DRIVE

IBM AT/XT IS A TRADEMARK OF INTERNATIONAL BUSINESS MACHINE

THESE ARE DEALER PRICES IN QUANTITIES OF 5 OR MORE

New Business Hours:
M-F:7AM-5PM PST
Sat:9AM-3PM PST

JM SYSTEM INC.

1633 W. Washington Blvd. • Montebello, CA 90640
Tel.:*(213)724-5585* • *FAX:(213)722-5856*
Dept.MT-888

- Prices & availability subject to change without notice.
- Credit card sales + 3%,$200 min.
- Shipping charges extra.
- 1 year limited warranty.
- $100 minimum order.

DESKTOP PUBLISHING SPECIALS

DESKTOP PUBLISHING BREAKTHROUGH
Mega 2 MonoChrome System, SLM 804 Laser Printer, Microsoft Write, VT 100 Emulator, VIP Professional
REGULAR PRICE $3711⁰⁰
PACKAGE PRICE
"ONLY $2999⁰⁰!"

PROFESSIONAL DESKTOP PUBLISHING
Mega 4 MonoChrome System, SLM 804 Laser Printer, SH-205 Hard Drive, Timeworks Publisher ST, VT 100 Emulator, VIP Professional
REGULAR PRICE $5110⁰⁰
PACKAGE PRICE
"ONLY $3995⁰⁰!

Mega2 Mono System	$1699
Color System	$1899
Mega4 Mono System	$2399
Color System	$2599
SLM 804 Laser Printer	$1595

Free Color Printer
with purchase of any above systems

HUGE SELECTION OF ST/MEGA SOFTWARE & PERIPHERALS IN STOCK!
- Supra 10 meg. Floppy Drive
- Supra 40 meg. Mega Drive
- IBM Emulator & 5¼″ Drive
- Macintosh Emulator
- Professional Midi Software e.g. Steinberg Pro 24 3.0 ver. Hybrid Arts, Sonus, Dr. T, etc.

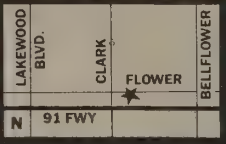
1040 Color System	$1049
1040 Mono System	$849
520 Color System	$849
520 Mono System	$649

COMPUTER CLASSES
SIGN UP NOW!
Desktop Publishing, Word Processing
Databases, Midi-Music Sequencing
Hands-On Training at affordable charges

Authorized ATARI Business Computer & Service Center
LARGEST SELECTION OF ATARI PRODUCTS
IN SOUTHERN CALIFORNIA

MID-CITIES COMP/SOFT
9406 Flower St., Bellflower, CA 90706
(213) 867-0626 (213) 867-8994

Store Hours:
Tue.-Fri. 10 a.m. to 7 p.m.
Sat. 10 a.m.-6 p.m.
Closed Sun. & Mon.



DISCOVER
master charge
VISA
Authorized Atari Dealer & Service Center

Hard Drive Sale and Repair Specials

Sale Prices

HARD DRIVES	
10 Mb Half or Full HT	$95
20 Mb Half or Full HT	185
30 Mb Full HT (39MS Access)	325
72 Mb Full HT (18 ESDI)	550
FLOPPY DRIVES	
DS/360K Half HT 5¼″	$65
DS/1.2Mb Half HT 5¼″	90
DS/720K Full HT 5¼″	45

Repair Specials

FLOPPY DRIVES	
Align and Test	$20
HARD DRIVES	
5 Mb - 19 Mb	$65
20 - 29Mb	90
30 - 39Mb	130
40 - 49Mb	150
50 - 85Mb	180
86 - 150Mb	230
Test and Evaluation Only	20

VISA
master charge
COMPCO - Computer Systems and Repair (818) 703-6036
8016 Remmet Ave. Canoga Park CA 91304 Fax #: 818-703-1745

NEWS AND ANALYSIS

version 3 to be released. Microsoft wants people to feel free to buy *Excel* now and get used to it before the new release of *1-2-3* becomes available in the fall. If you end up liking *1-2-3* more, you can return your *Excel* to the dealer for a full refund. Microsoft calls this a "win-win" guarantee since you will be sure either way (unless you buy *1-2-3* and don't like it).

The offer makes it easy to try out *Excel*, since Microsoft can't put out demonstration disks due to the large amount of disk space needed for Microsoft *Windows*, which is required for *Excel*. Microsoft says that it will be sure that any Microsoft dealer gives full refunds and will back up users who cannot get the refund from their dealers.

UNIX Unity Beginning To Unravel

Much to AT&T's dismay, a group of major UNIX vendors have formed the Open Software Foundation (OSF) to develop a software environment based on IBM's version of UNIX, AIX. The move was a direct slap at AT&T and its next version of UNIX, which it is creating with the help of Sun Microsystems.

The group consists of IBM, DEC, Hewlett-Packard, Siemens, Nixdorf, Groupe Bull and Apollo, and each member has contributed $4.5 million to the cause. The basis of the group is that the members do not feel confident that AT&T will move forward in a manner that each of them could follow, and that AT&T was not as interested in open standards as they are. The system that OSF plans to put together will be based on the international POSIX standard for operating systems, which is close to the basis for UNIX. Each member will also contribute software technology to the final product.

AT&T expressed open resentment at the move, and claimed that they were only asked in at the last moment. They scoffed at the idea that large purchasers of UNIX systems would wait for the group's product, saying that the largest UNIX market is for systems that are compatible with what is out there already. Notably absent from the OSF clan was Unisys, who immediately reaffirmed its alignment with AT&T. Although they were not mentioned at the announcement, Microsoft later said that they support the goals of the OSF and that it would work with vendors in both worlds.

Philips Patent On Video Games Upheld Against Mediagenic

Days after changing its name, Mediagenic may wish that it could change its history. North American Philips Corporation's patent on video cartridge action games was upheld in the U. S. Circuit Court in a case against Mediagenic of Menlo Park (formerly Activision). The patent, a lucrative legal weapon in the cartridge-game software market, gives Sanders Associates, now part of North American Philips, the exclusive right to sell cartridges in which particular game actions take place. North American Philips has been very successful in defending its patent against other game manufacturers, and has made a great deal of money on licensing the patent to others in the game market.

San Gabriel's Low Price Leader!!

Complete Systems!!

30 MB AT 10 MHz COMPATIBLE TURBO SYSTEM

BEST BUY!

- 6/10 MHz 80286 CPU
- 640K RAM on board
- AT Case (Lock, 3 LEDs, Reset)
- 200 Watt Power Supply
- 1.2 MB Floppy Drive w/Controller
- **30 MB Hard Disk w/Controller**
- Mono Graphic Card
- Parallel Port/Clock/Calendar
- TTL Hi-Res Monitor
- Enhanced AT Keyboard
- 1 Year Warranty

$1309

MONTHLY SPECIALS

SONY 3.5″ Drive 720K	$90
SONY 3.5″ Drive 1.44MB	$115
Multi Drive Controller Controls 1.4, 1.2, 720K, 360K Drives	$49

40 MB ENHANCED 12 MHZ AT COMPATIBLE SYSTEM

- 6/12 MHz 80286 CPU
- 640K RAM on board
- AT Case (Lock, 3 LEDs, Reset)
- 200 Watt Power Supply
- 1.2 MB Floppy Drive
- **40 MB Hard Disk**
- WA 2 HDD/FDD Controller
- Mono Graphic Card
- Parallel Port/Clock/Calendar
- TTL Hi-Res Monitor
- **Enhanced AT Keyboard**
- 1 Year Warranty

$1529

AT TURBO COMPATIBLE 10 MHz SYSTEM

- 6/10 MHz 80286 CPU
- 640K on Board
- AT Case (Lock, 3 LEDs, Reset)
- 200 Watt Power Supply
- 1.2 MB Floppy Drive
- W.D. FDD/HDD Controller
- Mono Graphic Card
- Parallel Port/Clock/Calendar
- TTL Hi-Res Monitor (720 x 350)
- AT Keyboard (Enhanced)
- 1 Year Warranty

$1029

20 MB System	$1219

LEGATECH 386

- 16 MHz 80386 w/Phoenix BIOS
- 1 MB RAM on board
- **Tower Case with:**
  Two (2) 3½″ openings,
  Two (2) 5¼″ openings, &
  1 Full Height Hard Disk space
- 275 Watt Power Supply
- 1.2 MB 5¼″ Floppy Disk Drive
- 1.44 MB 3½″ Floppy Disk Drive
- **16 Bit** Floppy and Hard Disk Controller
- Mono/graphic card with parallel port
- Mono TTL High Resolution Monitor

$2225

20 MB XT COMPATIBLE TURBO 10 MHz SYSTEM

- 4.77/10 MHz Board
- 512K on board
- AT jr. case (lock, 3 LEDs, reset)
- 150 Watt Power Supply
- One 360K Floppy Drive
- **20 MB Hard Disk**
- Mono graphic card
- Parallel port
- TTL Hi-Res Monitor
- AT Style Keyboard
- 1 Year Warranty

$899

30 MB System	$915
40 MB System	$1009

COLOR SYSTEMS ADD **$180** EGA SYSTEMS ADD **$380**

OPTIONS

FUJITSU 360K Drive (Black)	$70
FUJITSU 360K Drive (Beige)	73
FUJITSU 1.2 MEG Drive	89
Citizen 120D Printer	160
Citizen 180D Printer	189
Panasonic 1090i II Printer	225
NEC Multisync II Monitor	585
TAXAN 770 MultiVision Plus	545
CTX EGA Monitor	355
Samsung RGB Monitor	225
Mitsubishi DiamondScan	545

ORCHID
Authorized Dealer

DESIGNER VGA

- 512K RAM • CGA, EGA, HGC
- All VGA modes plus:
  - 640x480 256 colors
  - 800x600 16 colors
  - 800 x 600 256 colors
  - 1024 x 768 16 colors
- REGISTER - level compatible
- Hardware Pan and Zoom

$295

LEGATECH COMPUTERS

789 S. San Gabriel Blvd. #D, San Gabriel, CA 91776
(818) 309-2941

ORDER INFORMATION:
Prompt delivery. $3 handling charge plus UPS shipping. COD Cashier's Check/M.O. ONLY Personal Checks allow 10 days to clear. CA residents add 6.5% sales tax. Prices & availability subject to change w/o notice. No returns & repairs w/o prior auth. All returned merch. subject to 15% restocking fee.
DEALER INQUIRIES INVITED

Not responsible for typographical errors.

COMPUTER PRODUCTS CENTER

offers

Quality, Dependability & Service

with

Seagate / WESTERN DIGITAL

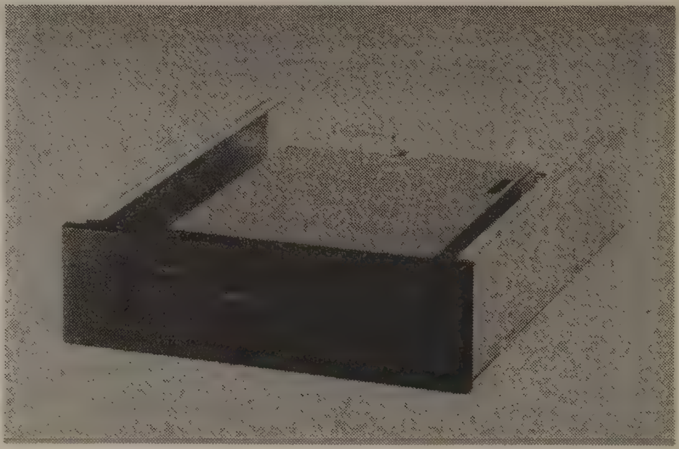
TEAC, SONY

and FUJITSU

Product Lines

Teac
3½-inch
Micro Floppy
Disk Drives

The 3½″ floppy disk is rapidly asserting itself as the most popular of the floppy disk versions. It's likely, however, that you have or may buy a computer with space for a 5¼″ drive. Now, with the FD-135N series, you can still use 3½″ disks.



These are 3½″ disk drives with the same external dimensions as 5¼″ models. They are fully plug-compatible with 5¼″ drives, so can be easily mounted in any computer with 5¼″ drive spaces. What's more, you don't sacrifice capacity: FD-135N series models give you a big 2 MBytes. They can be operated on DC 5 V power, and have extremely low power consumption.

CPC COMPUTER PRODUCTS CENTER, INC.

1101 S. Grand Avenue, Suite A
Santa Ana, California 92705
(714) 547-9777
FAX (714) 547-9865

Just The Fax, Ma'am!

Why EVERYONE
is buying the
XEROX 7020 Facsimile

1) It uses Plain Paper—SAVES YOU MONEY!
2) Transmission speed—UNDER 20 SECONDS
3) Delay sending—up to 15 locations at one time.
4) Security Locked

ONLY $\$5^{27}$ per day*

*OAC/lease plan

COPIERLAND

821 E. Broadway
Glendale, CA

1-800-USA-MITA
Ask for George

NEWS AND ANALYSIS

Borland Offers Paradox For OS/2

Strengthening the still-weak OS/2 market, Borland announced that *Paradox* is now also available in an OS/2 version that costs the same as the MS-DOS version, $725. The major advantages of the OS/2 version, according to Borland, are the vastly increased memory space and multi-tasking of processes. The increased memory capacity greatly reduces the disk accesses in memory-intensive operations. *Paradox* for OS/2 can share data with *Paradox* for MS-DOS, and can use data from the same network.

Borland hopes that the low upgrade price from the MS-DOS and 386 versions ($100) will cause many people to make the transition. Borland also announced that future versions of *Paradox* will take advantage of SQL technology.

Microsoft Announces A Slew Of Upgrades To Mac Products

Proving that they are not letting the Apple lawsuit get in the way of their applications development, Microsoft announced major upgrades to their line of Macintosh software with promises of new versions between now and this fall. The software upgrades all include full compatibility with Apple's MultiFinder, so that the Microsoft software can be run at the same time as other software on the Mac. Although many manufacturers are making their programs work with MultiFinder, Microsoft is aggressively adding features to allow its programs to perform most tasks in the background if selected.

Excel version 1.5 for the Mac, available now, gives the user more flexibility in customizing the dialog boxes and menus so custom programs can be set up effectively. It also supports color in charts on the Mac II, more chart types, more data points for charts, more macro and worksheet functions, and complete compatibility with macros on Excel for the PC. Recalculation can be performed in the background when running under MultiFinder. The price is $395, and upgrades from earlier versions are $25.

Word version 4 will included automatic repagination (a feature already in most other word processors), a new tables feature to make setting up tables much simpler, full WYSIWYG editing, absolute positioning so that text flows around graphics anywhere on the page, more customization of the menus, color text and graphics, a thesaurus and a macro program. The WYSIWYG editing will allow the user to edit multiple columns on the screen as well as header and footer text. The program will also allow users to quickly switch to other programs when running under MultiFinder. *Word* version 4 will continue to cost $395, and upgrades will be $50 or $75, depending on when the upgrade is ordered.

File version 2 revives an almost-dead product for Microsoft. The new version will have color capabilities, over 100 templates for labels and forms, a macro package for automating updating of data, added computation capabilities, and more advanced reporting facilities. *File* will also work more closely with *Word*'s form letter capabilities. It will cost $195 and the upgrade cost will be $50.

PowerPoint version 2 will fully support Mac II color, and include a spelling checker, find-and-replace commands for universal changes in presentations, an extensive template library and support for encapsulated PostScript from Adobe *Illustrator* and Aldus *FreeHand*. The program also more fully supports 35mm slide manufacturers. Microsoft will also provide a disk of presentation fonts up to 96 points. The program will cost $395 and the upgrade cost is $40.

Chip Maker Announces RISC Chip To Speed PostScript Output

Weitek, a major manufacturer of custom chips, has introduced a set of reduced instruction set computer (RISC) processor chips to allow printer manufacturers to make much faster PostScript printers. The HyperScript processors are optimized for handling page printing at high rates, especially in printers designed for PostScript. Manufacturers using these chips will be able to produce lower-cost printers due to the reduction in cost of the processing portion of the print controller.

Weitek will supply its PostScript-compatible driver software with the chips, and other driver manufacturers are adapting their software to work with the HyperScript chips. Bitstream Fontware, the major supplier of scalable fonts outside of Adobe, is available for the PostScript compatible drivers. Although Weitek has competition in this market, it is likely to make quick inroads due to its size and reputation. Due to the proliferation of chips like the HyperScript processor, the cost of fast PostScript printers may drop significantly by the middle of next year; however, the RAM chip shortage could boost the prices back up. Weitek, 408/738-8400.

Hewlett-Packard To Market Zenith Portable

Breaking away from the "must-be-made-here" mentality, Hewlett-Packard has decided to market a revised version of the popular Supersport 286 portable computer with the Hewlett-Packard label. Hewlett-Packard has been largely unsuccessful in the laptop and portable market due to higher prices for the machines it has introduced so far. By using Zenith's lower-cost technology, Hewlett-Packard can reduce the price of the models it sells and establish itself in a better price/performance marketplace. The two companies have worked together over the years on many government contracts, with Zenith supplying personal computers and Hewlett-Packard supplying peripherals and minicomputers, and the agreement may lead to other co-marketing and co-manufacturing arrangements.

HyperCard CD-ROM Edition Of The Whole Earth Catalog Due

Brøderbund Software will be releasing a CD-ROM containing the electronic edition of the *Whole Earth Catalog* that will be the first major CD-ROM *HyperCard* stack on the market. The stack will contain text, graphics and sound, and will have all of the

COMPUTER PRODUCTS CENTER
and
WESTERN DIGITAL
introduce to you

State of the Art
WD286-WDM2

Features
☐ 100% IBM AT compatible
☐ 12.5 MHz, one wait state operation
☐ I/O bus decoupling to ensure compatibility at all speeds
☐ 512K DRAM expandable to 1M onboard
☐ Built-in floppy and hard disk controller
☐ Built-in EGA Controller
☐ Two serial ports
☐ One parallel port
☐ Mouse port
☐ 80287 coprocessor support
☐ IDE disk interface
☐ Four expansion slots (three 16-bit AT bus and one 8-bit PC bus)
☐ 8.5 x 12.0 inch PC XT form factor (also supports MINI-AT chassis)
☐ Western Digital BIOS
☐ Surface mount board
☐ FCC Class B
☐ Configuration subject to change at the discretion of Western Digital

Distributors, Dealers & Wholesalers Welcome

CPC COMPUTER PRODUCTS CENTER, INC.

1101 S. Grand Avenue, Suite A
Santa Ana, California 92705
(714) 547-9777
FAX (714) 547-9865

NETWORK SPECIALISTS
SALES-INSTALLATIONS

NOVELL
ELS 286A.........................$495
ADV. NETWARE 286 2.0A............1495
ADV. NETWARE 2.11 W/KEY.........2150
ADV. NETWARE 2.1 SFT 3495
YES WE STOCK MICRO CHANNELS
VERSION ....$CALL

NETWORK CARDS
SMC ARCNET CARDS 210/110....$169/159
NOVELL COMPATIBLE 20 MHZ.......225
TIARA LINK A/A-11 PS2..........195/495
3COM
501S/3C503/MCHANNEL......425/425/535
*All prices subject to change without notice

MCC
2716 Ocean Park Blvd. #3075
Santa Monica, CA 90405
(213) 452-1335

CALL FOR QUOTES:
POWER SUPPLIES, NOVELL, ACER, AST, IRWIN, GATEWAY
DEALERS AND CONSULTANTS WELCOME
QUANTITY DISCOUNTS

SAVE BIG BUCKS

10 MHZ XT / 30 MB HARD DISK

- 4.77/10 MHZ SWITCHABLE
- 640K RAM
- 360K DRIVE
- 30 MB HARD DISK W/CONTROLLER
- 150 WATTS POWER SUPPLY
- MONO/GRAPHICS CARD
- HI RES TTL MONITOR
- AT KEYBOARD

$899

12 MHZ AT 286

- 6/12 MHZ SWITCHABLE
- 512K RAM (EXP. TO 1 MB)
- 1.2 MB FLOPPY DRIVE
- FLOPPY/HARD DISK CONTROLLER
- 200 WATTS POWER SUPPLY
- MONO/GRAPHICS CARD
- HI RES TTL MONITOR
- ENHANCED AT KEYBOARD

$985

20 MHZ 386 AT

$2249

OPTIONS:

- COLOR CARD AND MONITOR ....ADD $195
- EGA CARD AND MONITOR ....ADD $385
- TOWER CASE...........$250
- 15 MHZ 286 AT SYSTEM. .$CALL

Cases • Power Supplies
Peripherals
Modems • Drives • Keyboards

PHOENIX COMPUTERS
727 N. Brea Canyon Rd. #3
Walnut, CA 91789
(714) 595-6477

TIMER, INC.
13340 E. Firestone Blvd. #F
Santa Fe Springs ,CA 90670
213-921-7206

* Prices subject to change without notice

* Dealers: Call for quantity prices

* Call for prices of items not listed

NEWS
AND ANALYSIS

information from the printed version of the *Whole Earth Catalog* as well as additional items such as music samples and additional graphics. The information on the CD-ROM is heavily cross-referenced with links between related topics and authors. This disk is the first CD-ROM from Brøderbund, who hopes to release other disks in the future when the CD-ROM market matures. The *Whole Earth Catalog* has sold over 2.5 million copies of its many editions over the past 20 years, and the Point Foundation, its publishers, hope that the CD-ROM version will reach a new audience for the catalog. The stack requires a Macintosh running *HyperCard* and an AppleCD SC player or compatible. Brøderbund, 415/492-3200.

Apple Releases New Version Of HyperCard

HyperCard version 1.2 gives programmers more capabilities to create large stacks and lets users read stacks that are stored for reading only. The new version has special support for the AppleCD SC CD-ROM drive as well as the AppleShare network and other networks that allow protection of files.

Programmers working with HyperTalk, the programming language internal to *HyperCard*, will find many new programming features that help speed the stack development process. There are also new features in the search command and new keyboard commands. Apple is making this new version of *HyperCard* a free upgrade to anyone who has a copy of earlier versions of *HyperCard*.

Ziff Announces CD-ROM Version Of Many Magazines

Computer Library, the first consumer-oriented CD-ROM subscription service, will contain the full text of ten leading magazines and abstracts of over 110 others. Subscribers to the Computer Library will get the full text of *PC Magazine, PC Week, PC Tech Journal, MacUser, Government Computer News, Microsoft Systems Journal, A+ Magazine, Digital Review*, and the *Communications of the ACM* (other full-text magazines are scheduled for inclusion later in the year).

The abstracted magazines include almost every computer-related magazine available in this country. Computer Library comes with Lotus' BlueFish information retrieval software, which runs only on the IBM PC, although Ziff intends to make a Macintosh version of the Computer Library available in the future. The subscription is not cheap ($695 a year), but the full-text retrieval of major magazines could be invaluable to many researchers and market analysts. Since the CD-ROM player market is not very large, Ziff is offering CD-ROM drives for $635 to subscribers. Ziff Communications, 212/503-4400.

Sony To Upgrade NEWS Workstations To Dual 68030

Heralding the advent of major manufacturers using the 68030, Sony recently announced that the NEWS 1800 family of high-end UNIX workstations will have dual 68030 processors that will perform at 5.3 VAX MIPS (million instructions per second). The workstation will support a high-resolution monitor and the X-11 Window system from MIT, a 68882 floating point processor, and extensive I/O handling. The fast I/O is due to dedicating one of the 68030 processors to I/O processes. The base operating system software, SONY-OS, is based on UNIX 4.3 BSD. The NEWS workstation has rapidly become the most popular workstation in Japan, and, although it is relatively expensive, has become increasingly popular here in the computer-aided software engineering market. Sony Microsystems, 415/965-4492.

Novell Adds Macintosh To Novell NetWare

In a boost for the AppleShare network standard, Novell released NetWare 2.15, which allows Macintoshes to reside on Novell networks with PCs running MS-DOS and OS/2. Apple was especially happy at the announcement, since Novell has a large share of the PC network market.

NetWare for the Macintosh allows any Macintosh to connect to the Novell network and immediately share files. Macintosh programs that can use files from a AppleShare file server will be able to use the files on the Novell network. The program will be available this fall and will cost $200. Novell, 801/379-5900.

IBM Announces New PS/2 Computers And Options

A flurry of product announcements by IBM has bolstered its PS/2 product line at both the top and bottom ends. The Model 70 desktop computer is based on the powerful Intel 80386 chip and comes in three speeds: 25 MHz, 20 MHz, and 16 MHz. These will give IBM customers a wide range of choices for 80386-based computers.

In the mid-range, the Model 50 Z improves on the earlier Model 50 by adding much faster RAM memory for an increase in overall speed of 35%. Since IBM produces its own memory chips, it will not be affected by the current RAM shortage that is plaguing other manufacturers. IBM also announced a new low-end machine, the Model 25 LS, which is targeted at offices that have token-ring networks already in place. The Model 25 LS has a single floppy drive and a token-ring card so that it can access data off of the network. At the same time, IBM dropped the prices on many of its high-end PS/2s.

Not to be left out of the announcements, Microsoft also announced that people purchasing Model 25s from an IBM Authorized Dealer will qualify for a free copy of Microsoft *Works. Works*, Microsoft's low-end all-in-one package, has become a popular item with many people who mostly use their PCs to hook up to mainframes, since it gives them many of the capabilities of individual packages without making them buy (and decide on) many purchases. Model 25s sold by IBM Authorized Dealers will come with coupons for *Works*; users send the coupons to IBM to get the *Works* package. ☐

You Can Whisper About How Good This Printer Is.

That's because Toshiba's P321SL Printer will raise your productivity, not your voice. It has a selective quiet mode and standard features you will rave, but not yell about. Taking full advantage of a 24 × 42 character matrix that's unequaled in the industry, other 24-pin printers, (not to mention any 9-pin relatives), will have to play follow the leader.

Toshiba built it because you asked for it.

"MAKE IT EASIER TO USE." Say goodbye to the DIP switches in your life with front panel selection of type fonts, pitch, emulation, quiet mode and more.

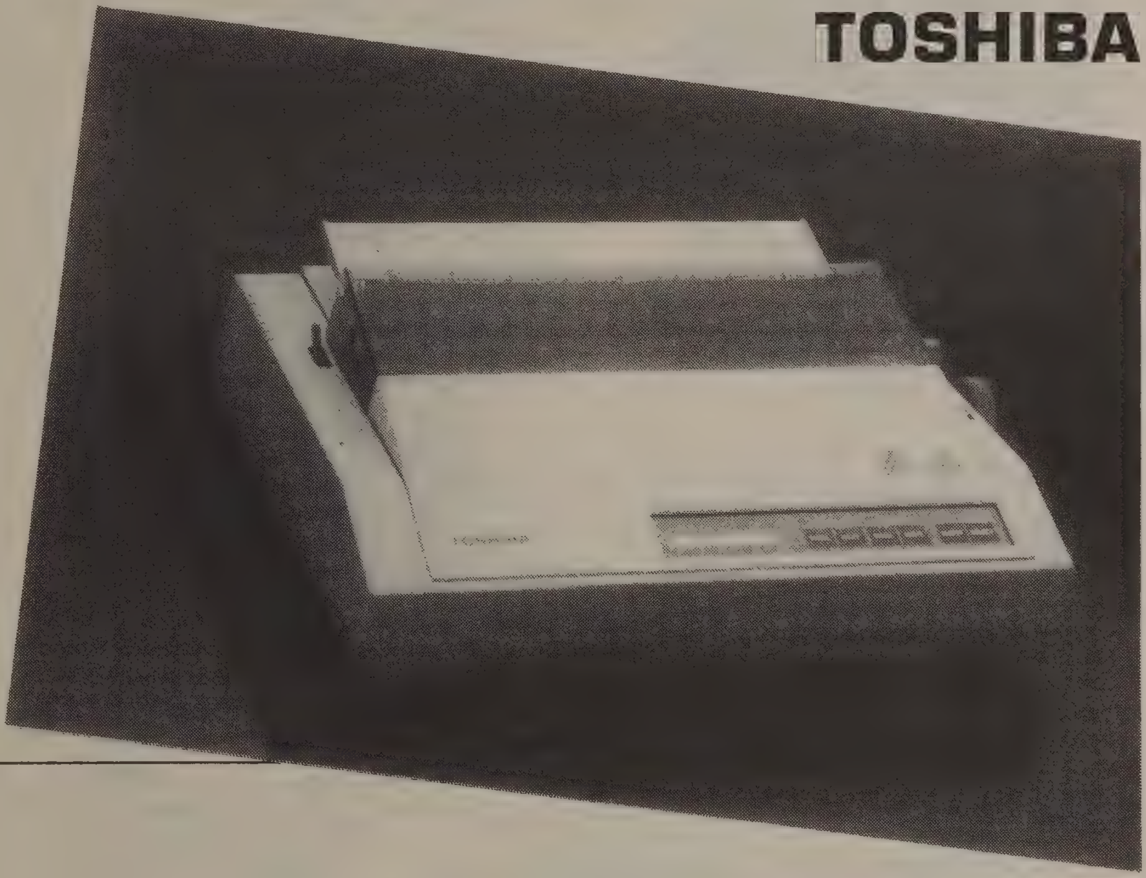
"BE SURE IT HANDLES LOTS OF SOFTWARE." The P321SL handles practically any software, so you won't have to pay extra for exotic print drives. With a finger-tip you can choose from three standard emulations: IBM PROPRINTER, QUME SPRINT 11 or TOSHIBA P351. You can create truly unique text with the selection of five resident fonts, two more via the front leading card slot and two more from disk.

"PROVIDE ENHANCED PAPER HANDLING." Forget about paper changing hassles. The fan-fold bypass feature lets you feed single sheets without pulling out the continuous form paper. Plus, with the auto-load lever you can position either type of paper quickly and precisely.

"KEEP IT AFFORDABLE." For slightly more than a 9-pin model, you can enjoy the printer you've designed yourself. The P321SL retails for $799.

"GIVE IT ATTRACTIVE STYLING." At a streamlined 16.3"W × 3.9"H × 15"D and only 17 lbs., it's the heavyweight champ pound for pound. You get great graphics with resolution as high as 180 × 360 DPI. It can also use compressed print so you can put 132-column spreadsheets on convenient letterhead size paper. Toshiba is where standard features set industry standards. Consult your nearest dealer listed below to get your printer today.

TOSHIBA



Now the printer that you designed is ready at one of the dealers listed below!

ASUCLA Computer Store
308 Westwood Plaza
Los Angeles, CA 90024
213 825-6952

Microcomputer Concepts
5921 Clark Circle
Westminster, CA 92663
714 898-3002

Americomp
114 E. Balboa Blvd., #A
Balboa, CA 92661
714 675-6664

Jaguar Computer Systems
4145 Indus Way
Riverside, CA 92503
714 734-5280

Monarch Micro Systems
12852 Palm St., #308
Garden Grove, CA 92640
714 530-1880

NR Systems
8363 Reseda Blvd., #14
Northridge, CA 91324
818 349-9898

National Computer Specialists
6153 Fairmount Ave., #102
San Diego, CA 92120
619-584-2700

Sinatron
8150 Vineland
Sun Valley, CA 91352
818 768-7710

Infotech International
8210 Katella Ave.
Stanton, CA 90680
714 894-0826

MCG Enterprises
20252 Clear River Lane
Yorba Linda, CA 92686
714 970-1214

Priority One Electronics
21622 Plummer St.
Chatsworth, CA 91311
818 709-5464

BROUGHT TO YOU BY
Gates
DISTRIBUTING

Get The Be$t For Le$$ at Valerio!

Always Complete Systems at the LOWEST Prices!

NEW

Complete 80386 System

$2099

MONITOR INCLUDED!

THIS COMPLETE, READY-TO-RUN SYSTEM Includes:
16/8/6/4.77 Mhz, 0 wait state, 80386-16 motherboard; (U.S. mfg.); 1 MB high-speed static column RAM installed; expandable to 10 MB; Phoenix 386 BIOS; 1.2 MB Floppy Disk Drive; Western Digital WA-2 Hard/floppy controller; 250 Watt, U.L. listed power supply; Hercules comp. monographics card with printer port; Thomson 15″ dual-frequency (CGA/MGA) amber monitor; AT Deluxe case (space for 5 half ht. drives, RESET/TURBO buttons, RESET/HDD/TURBO LEDs): Key tronic enhanced 101 mechanical-tactile keyboard, serial port & game port, parallel port.

Complete 8088 System (30 MB)

$1195

Includes: 4.77/10 MHz; 512K RAM on board; ONE 360K Fujitsu floppy drive; 150 watt power supply; Monochrome/graphics card; TWO Parallel ports; ONE Serial Port (second optional); ONE game port; A slot for a math co-processor chip; clock/calendar; XT slide in case; AT enhanced keyboard.
FREE AMBER TTL MONITOR WITH SWIVEL AND TILT
30 MB Fuji Hard Disk w/ Western Digital RLL Controller
FREE CITIZEN PRINTER (120D) w/ printer cable

Complete 80286 System (40 MB)

$1545

Includes: 6/10 MHz (80286-10 CPU); 512K RAM on board; ONE 1.2 MB Fujitsu floppy drive; 200 Watt Power Supply; Monochrome/graphics card; TWO parallel ports; ONE serial port (second optional); ONE game port; A slot for a math coprocessor chip; on board clock/cal; AT case w/ LED buttons; AT enhanced keyboard.
FREE AMBER TTL MONITOR W/ SWIVEL & TILT
40 MB Miniscribe 3650 Hard Disk w/ Western Digital WA2 Controller
FREE Citizen 120-D Printer w/ printer cable
Options:
ST 251 40 MB Hard Disk (35 ms) . . . . add $140
ST 251-1 40 MB Hard Disk (28 ms) . . . . add $170

FREE SURGE PROTECTOR with the purchase of ANY system

1 YEAR WARRANTY Parts & Labor with all systems

Point of Sale Software and Programming Services Available

Improve your present system with these options

COLOR UPGRADE (640 x 200) .add $160
EGA UPGRADE (640 x 350) .add $360
Multi synchronous upgrade (800 x 650) .add $580
20 MHz System upgrade . . . .add $200
360 Kb Floppy disk drive . . . . . . .add $65
1.44 MB 3.5″ floppy (PS-2 comp.) add $110
ST-251 40 MB Hard Disk (39 ms).add $415
ST-251-1 40 MB Hard Disk (28 ms).add $445
Seagate 4096 80 MB Hard Disk (28 ms) add $745

DEALERS AND CONSULTANT INQUIRIES WELCOME

FINANCING AVAILABLE

Multi user systems available - see our ad p 71

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

VALERIO ENTERPRISES
18341 Sherman Way Ste. 104-F
Reseda, CA 91335

(818) 343-1038
(818) 609-0535

Kenfil Announces Top Software Sellers

BUSINESS & PRODUCTIVITY —MS-DOS

Last Month	July	
1	1	WordPerfect
4	2	Carbon Copy Plus
3	3	RightWriter
11	4	Lucid 3-D
2	5	SideKick Plus
5	6	FormTool 2.0
7	7	Dac-Easy Accounting
–	8	Peachtree Accounting
8	9	Turbo C
10	10	NewsMaster II
–	11	Flow Charting II
–	12	Gem Draw Plus
–	13	Turbo Pascal
–	14	dBFast
15	15	MathCAD

UTILITIES—MS-DOS

Last Month	July	
1	1	Norton Utilities Advanced
2	2	Direct Access
3	3	PC Tools
4	4	XTree Professional
6	5	Fastback Plus
7	6	LapLink Plus
9	7	DESQview
–	8	Intelligent Backup
–	9	SeeMORE
8	10	Sideways
11	11	Disk Technician +
13	12	Q Dos II
14	13	Print Q
15	14	pcANYWHERE
–	15	COREIast

MACINTOSH

Last Month	July	
8	1	Superpaint
4	2	Suitcase
3	3	Beyond Dark Castle
1	4	QuicKeys
5	5	Mac Money 3.0
6	6	Hyper DA
–	7	"Draw It Again, Sam..."
–	8	Tempo II
–	9	Wet Paint Classic Clip-Art
–	10	Stepping Out II
–	11	Canvas
10	12	Word Finder
2	13	WordPerfect
7	14	Managing Your Money
–	15	Super 3D

Source: Kenfil Distribution, Van Nuys, CA. "Kenfil July Bestsellers."

LOOKING FOR SOMETHING CHEAP? . . . TURN THE PAGE
LOOKING FOR QUALITY & VALUE? . . . READ THIS PAGE

VISION 21™

VISION 21 S·Y·S·T·E·M·S

16945 Bushard St. • Fountain Valley, CA • 92708
(714) 963-1090 • (714) 963-2703

IBM COMPATIBLE SYSTEMS • COMPONENTS • SERVICE

VISION 21™

JULY & AUGUST SPECIALS

10MHz 286 0 wait

- SI Norton Index = 15.3
- 286 10MHz motherboard, 0 wait
- 640KB RAM on board
- Case with keylock & 3 LED
- 200 watt power supply
- Fast Floppy/H-D Controller
- 1.2MB Floppy Disk Drive, 5.25''
- 20MB Seagate Hard Disk, 28ms!
- Parallel Port
- Hi-Res Monochrome monitor
- Enhanced 101 key Keyboard

OUR PRICE: $1,265.00

12MHz 286 0 wait

- SI Norton Index = 11.3
- 286 12MHz motherboard, 0 wait
- 640KB RAM on board
- Case with keylock & 3 LED
- 200 watt power supply
- Fast Floppy/H-D Controller
- 1.2MB Floppy Disk Drive, 5.25''
- 20MB Seagate Hard Disk, 28ms!
- Parallel & Serial Ports
- Hi-Res Monochrome monitor
- Enhanced 101 key Keyboard

OUR PRICE: $1,395.00

16MHz 286 0 wait

- SI Norton Index = 18.7
- 286 16MHz motherboard, 0 wait
- 1MB RAM on board
- Case with keylock & 3 LED
- 200 watt power supply
- Fast Floppy/H-D Controller
- 1.2MB Floppy Disk Drive, 5.25''
- 40MB Seagate Hard Disk, 28ms!
- Parallel & Serial Ports
- Hi-Res Monochrome monitor
- Enhanced 101 key Keyboard

OUR PRICE: $2,042.00

COMPLETE TOP-OF-THE-LINE SOLUTION
386 20MHz !!

- SI Norton Index = 22.9
- 386 20MHz motherboard
- 1MB RAM on board
- Case with keylock & 3 LED
- 230 watt power supply
- Fast Floppy/H-D Controller
- 1.2MB Floppy Disk Drive, 5.25''
- 1.44MB Floppy Disk Drive, 3.5''
- 40MB Seagate Hard Disk, 28ms!
- EGA 640x480 display card
- Relisys 720x350 EGA monitor
- 2 Parallel & 2 Serial Ports
- Enhanced 101 key Keyboard

OUR PRICE: $3,245.00

ALL SYSTEMS INCLUDE: ONE YEAR PARTS & LABOR LIMITED WARRANTY

LOWEST PRICE — BEST FOR LESS — AFFORDABLE — LOW PRICE LEADER — BEST BUY — SUMMER SPECIAL — DISCOUNTS — SPECIAL PRICING

Look throughout this magazine, the ads go on and on, everyone seems to have the very best at the very lowest prices. It's time for a little honesty; it is not possible to have the lowest price without compromising something — be it complete components, quality, service, or warranty. **Many apparently low prices are actually for an essentially incomplete system. A system without a monitor or RAM memory is not a complete system; it will not operate without additional hardware.**

VISION 21 SYSTEMS urges you to shop as carefully for a computer system as you would for any other major purchase. Shop not only on the basis of price, but compare components — are the hard disks of the same manufacture, what's the access speed? Check the quality, warranty, after sale service capability of the prospective vendor.

Stop on by **VISION 21 S•Y•S•T•E•M•S**. We'll be happy to assist you in selecting a system that meet YOUR needs, and give you a written quote (valid 30 days) for you to compare with other vendors.

Frustrated Reader Reports Happy Ending

From time to time we receive a report from one of our readers of some difficulty they're having with a particular product or service advertised in *MicroTimes*. Such feedback is a matter of serious concern to us.

Recently we heard from David Becker of Washington, who was having problems getting a printer he'd ordered from one of our advertisers. His frustration was evident, and, as the following correspondence shows, we were able to help him resolve the situation.

We can't promise a happy ending to everybody, of course. However, we want to hear from you if you're having such difficulties, so that we can help if possible to insure mutually beneficial relations of *MicroTimes* with its readers and advertisers. — *eds.*

Dear Mr. Erokan:

As a Seattle-area subscriber to *MicroTimes*, I want to report that I am well served by the editorial content of the publication. The April issue's interviews with Theodor Nelson and Jim Warren were exceptionally interesting and comprehensive, and John Dvorak was in prime form. (I think he writes more potently for *MicroTimes* than he does for the other publications that use his talents.)

When I receive value from a publication, I am motivated to support its advertisers, knowing that ad revenues are what sustain the life of the publication. Throughout the years I've been involved with micros, I've bought everything from shareware to complete computers and printers through the mail, with complete success and satisfaction.

My luck has changed decidedly for the worse in dealing with a firm which advertised in *MicroTimes*. (Please understand that I do not in any way want to suggest that I view you or *MicroTimes* as having any responsibility whatsoever for what follows.)

In the March issue, a San Francisco-based retailer advertised a good price on a NEC-890 PostScript printer. I called to discuss the order on March 14 and, satisfied with the response, sent a cashier's check for $3224. I was told the printer would be shipped two days after receipt of the money. When two weeks passed without receiving it, I called. They said it had shipped, but that UPS returned it for being over their weight limit. The salesperson said it would be sent via motor freight; 10 days have passed with no further notification.

These problems will be resolved somehow; however, experiences such as these make it unlikely that I will be able to feel confident about suppliers who advertise in *MicroTimes*. If others also are having disagreeable encounters like these, they won't place orders, the offending advertisers will go out of business, and you'll have more difficulty obtaining revenue to produce the publication. Not a pleasant prospect.

I don't expect a reply or any action on your part. Mail order is a *caveat emptor* environment, but I thought you might want to know that some of your supporters and admirers are getting clobbered out here.

David J. Becker
Kent, WA 98031

Dear Mr. Becker,

Thank you for your interest in MicroTimes, *I am glad to hear that you are pleased with our publication.*

However, I am sorry to hear that you have been having problems receiving your merchandise from our advertisers. We were able to have our sales rep, Lee Salem, call the advertiser and explain the situation to them and they are going to look into it. So, hopefully you will get some action soon.

Dennis Erokan
Publisher/Editor

Dear Mr. Erokan:

Thank you for your most generous, expeditious, and effective intervention on my behalf relative to difficulties associated with your advertiser. It was certainly not my intention to embroil you and your staff in this matter; however, your intercession appears to have had an efficacious result.

When I made my — by now — routine weekly call to the vendor on April 8 (having written you on the 6th), I was informed by a polite and persuasive saleslady (1) that the salesperson who had taken my order had quit the company, but that, nonetheless, "You will receive your NEC Silentwriter next Thursday [April 14]."

Needless to say, "next Thursday" came and went but no NEC 890 appeared. So I called today [April 15] and was able to discuss the matter with the manager. He told me that he first became aware of the mixups after hearing from your sales rep, Lee Salem, who was investigating the complaints in my letter. He knew the previous history of the order and told me that the printer would be shipped April 19 and that I should have it April 26. If that happens — and please understand my skepticism — I'll let you know.

Your April 13 letter was here when I returned home from work today, and I want to thank you so much for your personal concern.

David J. Becker
Kent, WA 98031

Dear Mr. Erokan:

As you can see, by the typeface of this letter, I finally received the NEC LC-890 Silentwriter. Now that it's purring away here, my satisfaction level is stratospheric.

Thanks again for your influential assistance. It made a crucial difference in this case.

Whoopee!!

David J. Becker
Kent, WA 98031

A Point Of Accuracy

In the June issue of *MicroTimes* you published an article on desktop video by Ben and Jean Means. Although they admit "no greater knowledge of the English language than what it takes to phone for pizza," a more honest disclaimer would have included their purported subject matter.

One example was their confusion of video scanlines with "lines of resolution." "Lines of resolution" is actually an expression of how many black and white dots can exist on a single scanline without blending together into grey. If every scanline consisted of this same dot pattern, then the complete picture would appear to be one of tightly spaced vertical lines. Thus "lines of resolution" is a measure of horizontal, not vertical, resolution. This kind of error is bad enough when made by consumer video retailers, but for you to perpetuate and legitimize it in print is no joke but an extreme disservice to your readers.

Regarding their other disputable assertions: it's true that Amigas are used in professional video, but not in the way that the authors suggest or would understand; the Mac II does not output NTSC video, not without around $7,000 worth of additional boards and equipment; and Targa boards are not "a lot of money" for an article that talks about $15,000 desktop video workstations. Although probably a misprint, there is no such thing as 3/4" Betacam. Betacam uses 1/2" tape, identical in size though not in composition to Betamax home video tape.

Typically, they did not include any mention of the "genlocking" abilities of the Amiga. This enables the Amiga to synchronize its video output with another, external video source such as a VCR, and to cleanly mix the two into a single product; although optional this inexpensive add-on is really what makes the Amiga shine. But someone else is going to have to tell your readers.

Bud Ryerson
San Francisco

P.S.: The Amiga is used in professional video as a system called the "Boris." It is used to quickly generate "trash mattes" for keying out unwanted areas of a picture or an effect. In the Amiga's high-res mode, working with a 16 step grey scale for a palette, a smooth, clean, soft-edged matte can be created. This technique and its applications are worthy of an article in themselves.

Ben and Jean reply:

The confusion of video scanlines with lines of resolution was indeed unfortunate. These statements were a result of extensive interviews with several professional video engineers whose explanations were at times contradictory and unclear. The lack of understanding of these concepts is suffered not only by "consumer video retailers;" but among many video professionals as well. Thanks to Mr. Ryerson for his clarification on this subject.

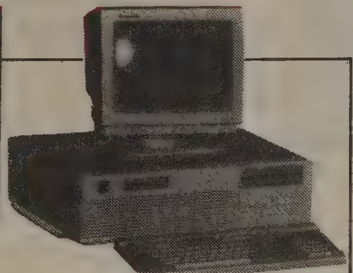
However, Mr. Ryerson's statement that "it's true that Amigas are used in professional video, but not in the way the authors suggest or would understand" is way off base. We have interviewed top industry professionals and are well aware of how

COMTRAD

At COMPUTEL,

We GUARANTEE to SAVE YOU MONEY!!

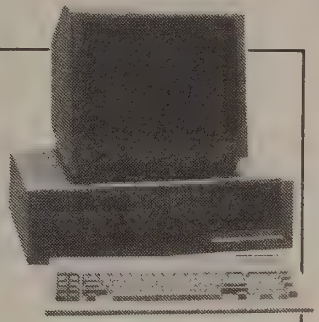
Complete AT (10 MHz)



640K RAM
1.2 MB Fujitsu Floppy Drive
FDD/HDD Controller
200 Watt Power Supply
Samsung 1252G Monitor
Mono/Printer Card
Keytronic 101 Keyboard

$958

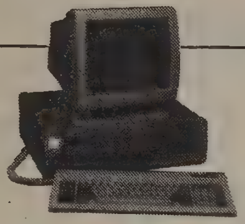
Complete AT (12 MHz)



6/12 MHz Motherboard
640K RAM
1.2 MB Fujitsu Drive
FDD/HDD Controller
SamSung 1252G Monitor
Mono/Printer Card
Key Tronic 101 keyboard

$998

10 MHz XT Turbo



(w/ 20 MB Hard Disk)
4.77/10 MHz Motherboard
640K RAM
AT jr. case (3 LEDs, reset, lock)
150 W Power Supply
One 360K Floppy Drive
20 MB Hard Disk
Mono graphic card
Parallel port
TTL Hi-res monitor
AT Style Keyboard

$899

SUPER AT (16 MHz)

Landmark. . . 16 MHz
640K RAM
1.2 MB Fujitsu Floppy Drive
FDD/HDD Controller
200 Watt Power Supply
Samsung 1252G Monitor
Mono/Printer Card
Keytronic 101 Keyboard

$1068

UPGRADES

Color Monitor	add $180
EGA Monitor	add $380
Seagate ST-225 20 MB	add $240
Seagate ST-238 30 MB	add $295
Seagate ST-251 40 MB	add $365
Seagate ST-4096 80 MB	add $695
Miniscribe 3650 40 MB	add $325

Dealer's Corner

SUNTAC AT BOARD
6/12 MHz, 0 Wait State
w/ 100 ns RAM
Up to 4 MB on board
EMS Function on board

$235

NCL AT Controller $96

COMPUTEL, INC.
A Division of COMTRADE GROUP
14145 Proctor Ave., City of Industry, CA 91746
(818) 369-2626

All systems come with a limited one year warranty.
Dealers: call for quantity pricing.
Note: Corporate, government, & institute purchase orders welcome.

The BEST
Quality AT 286 System Dealer Pricing only $595

TURBO
MODEL D386
$2,899
20 MHz Zero Wait State
Landmark = 25 MHz
- INTEL 32 BIT 80386 CPU
- CMOS MEMORY, 16 CHANNEL INTERRUPT 7 DMA CHANNELS
- 2 MEG RAM, EXP. TO 8 MB
- 1.44 MB FLOPPIE • 1.2 MB FLOPPIE
- MONOCHROME GRAPHICS ADAPTOR
- ENHANCED "AT STYLE" KEYBOARD
- PARALLEL PRINTER PORT
- 200 WATT POWER SUPPLY
- KEY LOCK, RESET BUTTON
- FULL 7 EXPANSION SLOTS • 80387 SOCKET
- HIGH RESOLUTION AMBER MONITOR

BABY AT M286
MOTHER BOARD $275
12 MHz Zero Wait State, Landmark = 16 MHz
- IBM PC/AT COMPATIBLE MOTHER BOARD
- MULIT-SPEED 6/8/10/12 MHz
- 8 MEMORY ALLOCATION MODES AVAILABLE 512KB, 640KB, 1MB, 2MB, 4MB and 3 EMS V4.
- SEPARATED CPU and AT BUS CLOCK, AT BUS CLOCK IS SWITCHABLE
- 8 EXPANSION SLOTS 6-16 BIT, 2-8 BIT
- TWO RS-232 PORTS AND ONE PARALLEL PORT BUILT-IN ON BOARD
- SMT MOUNTING IMPROVED RELIABILITY
- ZERO WAIT STATE OR ONE WAIT STATE SELECTABLE

★ DEALERS CALL FOR CASE & COMPONENTS PRICING ★

BABY 386
MODEL P386
$2,999
20 MHz Zero Wait State
Landmark = 25 MHz
- CMOS MEMORY, 16 CHANNEL INTERRUPT 7 DMA CHANNELS
- 2 MEG RAM, EXP. TO 8 MB
- 1.44 MB FLOPPIE • 1.2 MB FLOPPIE
- MONOCHROME GRAPHICS ADAPTOR
- "AT STYLE" KEYBOARD AND CASE
- PARALLEL PRINTER PORT
- 200 WATT POWER SUPPLY
- KEY LOCK, RESET BUTTON
- FULL 7 EXPANSION SLOTS
- 80387 SOCKET
- 9" PAGE WHITE HI-RESOLUTION

LUNCH BOX
TURBO
MODEL L286
$1,345
12 MHz 0 Wait State
4 Speed Baby AT
Landmark = 16 MHz
- 512 KB RAM, EXP. TO 4 MB
- 1.2 MB FLOPPIE
- 200 WATT POWER SUPPLY
- "LCD" ADJUSTABLE MONITOR, HIGH RESOLUTION 640 x 200 - SUPPORTS EXTERNAL CGA/MGA MONITOR
- INSTANT ON TURBO
- KEYBOARD WITH CARRYING CASE
- RESET BUTTON
- 80287 SOCKET

★ ALL SYSTEMS FULLY ASSEMBLED & TESTED ★

★ 1 YEAR WARRANTY PARTS & LABOR ★
★ FULL LINE OF ACCESSORIES / DEALERS WANTED ★

BARE BONE
D-286
Dealer
Price
$595
16 Bit Personal Computer
- 80286 CPU, 12 MHz, 0 WAIT STATE 80287 OPTIONAL
- 6/8/10/12 MHz MULTI-SPEED
- 200 WATT POWER SUPPLY
- 512K RAM ON BOARD
- LEGAL BIOS & BATTERY BACK UP
- FULL MS-DOS COMPATIBILITY
- SMALL SIZE AT 20" x 9¼" x 19¾" CASE
- KEYLOCK, RESET BUTTON, TURBO BUTTON

PCTek Inc.
An Importer & Manufacturer
announces...

its new PC-286, an AT-compatible system that runs at either 6, 8, 10 or 12 MHz with switchable wait states. Standard configurations include either 512K bytes or 4 megabyte as two of the 8 memory allocation modes, six 16-bit and two 8-bit expansion slots, and the expected parallel and serial ports. The PCTek D-286 also comes with single or dual 1.2 megabyte 5¼" floppy disk drives, a 101-keyboard, and an out-front control panel with both reset and turbo switches. Many more features are available, and you can further customize your PCTek D-286 with a variety of hard disk drives ranging from 20 and up megabytes. Please call to set up an appointment!

(714) 842-6080
9582 HAMILTON AVENUE, SUITE 288
HUNTINGTON BEACH, CA 92646

SUBSCRIBE

Keep up with California computer news!

California has needed a magazine for computer users and MicroTimes is it!

If you're having trouble finding MicroTimes in your area, get your own personal copy delivered by mail.

California's Computer Magazine
MICROTIMES

Send Me The Next 12 Issues For $24 In Mexico & Canada $40 Overseas (surface mail) $40
(Allow 3 to 4 weeks for delivery)
☐ cash enclosed ☐ charge card
Visa/Mastercard # ________
Expires ________
Signature ________
Name (please print) ________
Address ________
City ______ State ______ Zip ______
Edition ☐ Bay Area ☐ L.A.
Mail to: MicroTimes Subscriptions
5951 Canning Street
Oakland, CA 94609

they currently use the Amiga and plan to use the Mac II. His observation that we didn't mention "genlocking" and "trash mattes" is correct, but specious. We didn't feel that these subjects could be adequately covered in this small article whose main purpose was to introduce the concept of Desktop Video. It was not intended as an applications piece.

As to his comments about the Mac II, Targa boards and Betacam, we didn't claim that the Mac II outputs NTSC video; there are RGB-to-NTSC encoders that can give it NTSC capability for well under the $7,000 figure Ryerson quotes. Regarding Richard Lewis' quote in our article about the cost of IBM systems and the Targa board, if Lewis only needed one system, cost would not have been a problem. But on *Max Headroom*, he needed to run multiple systems, and the cost of a half dozen IBM systems outfitted with Targa boards and graphics software was well beyond his budget constraints. This prompted him to use the low cost Amiga instead. "3/4" Betacam" was indeed a misprint; it should have read "3/4", Betacam."

In the midst of Ryerson's flurry of objections, one thing becomes clear. He has missed the point of who the article is written for. If this was an article intended for video professionals, we would have skipped the preliminaries and delved into the technical details that Ryerson focuses on. But this article was written for computer users who are new to video. Its main point was that high quality, low cost video tools are now available to personal computer users. If Mr. Ryerson would like to correspond with us, we would gladly share his insights and observations with *MicroTimes* readers in upcoming articles.

A Final Note: If Mr. Ryerson had read more carefully, he would know that Ben is the one with no greater knowledge of the English language than what it takes to phone for pizza; Jean is a trained journalist.

WRITE A LETTER, GET A T-SHIRT

***MicroTimes* wants to hear from you!**

Send us a letter to the editor, discussing the contents of our magazine, products and services of interest to you, important issues, etc. If we print it, we'll send you a *MicroTimes* t-shirt.

Letters should be directed to Letters, *MicroTimes*, 5951 Canning Street, Oakland, CA 94609. Please include your name and mailing address. Supplies of t-shirts are limited, so we can't guarantee the availability of your t-shirt size, but please include that information so we can try to accommodate you.

IBM Software for $3⁴⁹

Thousands of IBM/Compatible Public Domain and Shareware Programs Are Available from the Micro Star Library, and Priced at **Only $3⁴⁹**

ORDER TODAY on our Toll Free Phone Lines

ORDERS SHIPPED OUT SAME OR NEXT DAY

GAMES

JET SET FLIGHT SIMULATOR (102) Be a jet pilot at the controls.
GLOBAL THERMAL NUCLEAR WAR (105) Frightening possibilities.
ARCADE GAMES (106) Has Kong, a 3-D Pacman, Bricks, Pango. (Requires color.)
BASIC GAMES (107) Pacman, Lunar Lander, Startrek, Meteor, Breakout, and others.
CARD GAMES (109) Canasta, hearts, draw poker & bridge.
STRIKER (110) Defender-like game. "Top Gun" in space.
FLIGHTMARE (112) Futuristic fighter pilot game. (Requires color graphics adapter.)
SLEUTH (117) Who done it?
MONOPOLY WITH GRAPHICS (118) Color or monochrome.
DUNGEONS AND DRAGONS (119)
GAMES IN BASIC (124) Lander, biorhythms, desert, Phoenix, Star Wars, others.
TRIVIA GAME (130-131) (2 disks) Extensive trivia game.
PROFESSIONAL BLACK JACK (148) Become a pro.
QUEST (152) Role playing adventure fantasy game. (Requires color.)
PINBALL (153) Many games. Also includes a great maze game.
BRIDGE PAL (171) Complete game of contract bridge, with tutorial.
FENIX (193) Just like the famous arcade game.
SPANISH HANGMAN (196) Fun way to learn Spanish.
BONZOWARE (199) Multi-faceted entertainment for adults only.
KID-GAMES (GAM 8) Animals math, clock game, alphabet, etc.
3-D CHESS (GAM9) Incredible. 2D and 3D. Many levels. Play back moves, store games.
WIZARD'S LAIR (GAM14, GAM15) (2 disks) Like Dungeons & Dragons, w/maps, sorcery, etc.

EDUCATION

FUNNELS AND BUCKETS (201) A fun way to learn basic math.
MATHPAK (202) Tutorial with lessons in higher mathematics.
PC-TOUCH (204) Typing tutorial.
EZ-SPELL (206) Checks spelling.
EDUCATIONAL PROGRAMS (207) Preschool and elementary.
BASIC TUTORIAL (208) Learn programming with BASIC.
BEGINNING SPANISH (211) Tutorial
BIBLEQ (214) The Bible with this question-answer tutorial.
SPANISH II (232) Sequel to #211.
AMY'S FIRST PRIMER (248) Teaches alphabet, numbers, shapes, colors, counting, etc.

MUSIC

PIANOMAN 3.2 (301) Turn your keyboard into a piano. Fun!
PC-MUSICIAN (302) Compose, save, and play music.

WORD PROCESSING

PC-WRITE 2.71 (401-402) (2 disks) Latest version of this popular program w/spelling checker.
NEW YORK WORD (403-404) (2 disks) Powerful split screen editing, mail merge, etc.
LETTER WRITER (405) The easy way to write letters! Popular.
PC-STYLE (413) Analyzes style and readability of your writing. Works with Wordstar, PC-Type, & ASCII.
PC-TYPE+ (421-423) (3 disks) Excellent. Has mail merge, 100,000 word spelling checker. Interfaces with PC-File +, PC-Style.

SPREADSHEETS

EZ-SPREADSHEET (509) Easy but powerful. For the beginner.
PC-CALC+ (512-514) (3 disks) Jim Button's famous Lotus clone.

SPREADSHEET TEMPLATES

LOTUS MACROS (601) Save hours of work. (Requires Lotus 1-2-3)
LOTUS SPREADSHEET TEMPLATES (602) Ready made. (Requires Lotus 1-2-3)
TECHNOJOCK TUTORIALS (626) Teaches Lotus and dBase, menu-making, etc. Excellent.

ACCOUNTING AND FINANCE

PC-GENERAL LEDGER (701) Popular accounting system. Easy!
MR. BILL (702-703) (2 disks) For billing customers; invoices, client reports, audit trail.
CPA LEDGER (706-708) (3 disks) Complete GL.
PC-STOCK (712) Analyze market trends. Includes graphics.
PC-PAYROLL (714) Menu driven payroll system.
PERSONAL FINANCE MANAGER (715) Household budget manager. Keep track of checking, savings, investments.
CHECKBOOK (752) Complete system with online help.
EMPLOYEE MANAGEMENT (793) Teaches principles of the famous One-Minute Manager.

DATABASE PROGRAMS

PC-FILE+ 2.0 (801, 805, 837) (3 disks) Rated better than dBase III+ by Consumer Reports.
PC-GRAPH (802) Creates graphics directly from PC-FILE.
FILE EXPRESS 4.0 (803-804) Powerful system. Allows 32,000 records. Sorts up to 10 key fields.
NEWBASE (809) User-friendly menu-driven DB system.
DBASE III ROUTINES (815) Over 60 helpful dBase III routines.
WAMPUM (824-825) (2 disks) Dbase III clone. dBase III compatible

GRAPHICS

KEYDRAW CAD SYSTEM (1001-1002) (2 disks) Popular. (Requires color graphics.)
3-D (1003) Create and edit 3-D objects. (Requires color graphics.)
SIDEWAYS (1007) Prints your text sideways.
ANIMATOR (1011) Create animated pictures on your PC.
SIMCGA (1027) Use with Hercules graphics card/compatibles to run programs requiring CGA.
READ MAC (1041) Digitized pictures of Ashley, Cheryl, Brooke and Spock. ADULTS ONLY!
FINGERPAINT (1050) Use keyboard or mouse to draw. Like MacPaint. (Requires CGA or EGA)
DANCAD 3-D (1051, 1052) (2 disks) Create 3-D graphics. Rotate, magnify, etc. Runs on CGA, EGA, or Hercules/compatibles.

TELECOMMUNICATIONS

Q-MODEM 3.0 (1101-1102) (2 disks) Fast modem program.
RBBS-PC (1107-1109) (3 disks) Multi-user BBS.
PROCOM 2.42 (1112-1113) (2 disks) Hacker's delight. Redial capability. Latest version.

SECURITY/HACKING

UNPROTECT PROTECTED PROGRAMS (1202) Make backups of protected software.
UNPROTECT II (1203-1204) (2 disks) More ways to backup commercial software.
UNPROTECT III (1205) Unprotect Softguard protection.
UNPROTECT IV (1206) More programs you can unprotect.

DOS

DOS TUTORIAL (1301) Teaches you to use DOS.
DOS HELP (1302) Convenient help when a problem arises.
STILL RIVER SHELL (1304) Run DOS commands from a menu. Makes using DOS easy.
BATCH FILE TUTORIAL (1305) Utilize batch file processing.
DOS TIPS (1311, 1314) (2 disks) Advanced tutorial.

BASIC

PC-PROFESSOR (1401) BASIC tutor.
BASIC PROGRAM GENERATOR (1402) The menu driven way to write programs.
SWISS ARMY KNIFE (1406) Tools for programming in BASIC.

APPLICATIONS

FORM LETTERS (1907) Commonly used form letters and business applications.
EZ-FORMS (1908) Make forms to meet different needs.
MAIL MASTER (1910) Create mailing lists. Print letters and labels.
ASTROLOGY 9.4 (1916) Calculate your own chart. Prints wheel.
HOME INVENTORY (1966) Track all your possessions.
LOTTO MASTER (1981) Play the lotteries w/scientific methods.
MEMBERSHIP SYSTEM (1984) Great for clubs, churches, etc.
FAMILY HISTORY (2203-2204) (2 disks) Create files and genealogical reports.
DR DATA LABEL (2327) Powerful mailing list program. Customize labels to size and format.
CITY DESK (2513) Simple desktop publisher.

UTILITIES

DESK COMMANDO (2607) Better than Sidekick. Many features.
EPSON PRINTER UTILITIES (2705) Change print modes on Epson or compatibles.
LINCOMATIC BANNER (2714) Creative banner making.
LIGHTNING PRESS (2718) Printshop clone. Includes graphics for greeting cards, letterheads, posters, newsletters, etc.
MASTERKEY (2805) Like Norton's. Retrieve deleted files.
AUTOMENU (3003) Make PC menu driven. Multiple passwords.
PC LABS BENCHMARK (3039) Comprehensive testing. Compare computers before you buy.

RELIGION

THE BIBLE (3301-3306) (6 disks) Old Testament, King James version.
THE BIBLE (3307-3308) (2 disks) New Testament, King James.
WORD WORKER (3309-3310) (2 disks) Bible search program. New Testament, King James.
BIBLEMEN (3330) Excellent Bible quiz program.

MICRO STAR

POST OFFICE BOX 4078 • LEUCADIA, CA 92024-0996

HOURS: Monday - Saturday 7 AM - 5:00 PM, Pacific Time

TERMS: We accept MasterCard, VISA, Checks (allow checks 10 days to clear), Money Orders, and COD (add $4).
MINIMUM ORDER: 5 Disks, $3.49 per disk. For 3½" format add $1/disk.
SHIPPING & HANDLING: $3.50 (Total per order).

CALL TODAY FOR FREE CATALOG

NATIONAL: 800-443-6103
CALIF: 800-443-7430
FOREIGN: 619-436-0130

Higher Speeds & Better Resolution

20 MHz 386 0 Wait (SI=23.0)

Excellent for AutoCAD & Networking

- 3 Times Faster Than AT
- 10/20 MHz dual speed
- 1 MB (80 nSec) DRAM on board
- Award Bios
- 200 Watt Power & Turbo AT Case
- W.D. FD/HD Controller
- 1.2 MB Drive
- 5339 Keyboard (101 keys)
- Socket for 80387 co-processor

$2180

12 MHz 286 0 WAIT (SI=15.3)

Excellent for High Speed Applications

- 8/12 MHz turbo speed
- Hardware & software switchable
- 512KB on board, 1MB option
- 640/384 ram distribution
- Phoenix
- 200 watt power & AT case
- W.D. FD/HD Controller
- 1.2 MB Drive
- 5339 Keyboard

$950

10 MHz XT (SI=3.7)

Excellent for Workstation

- 4.77/10 MHz turbo speed using standard 4164/41256 RAM
- Hardware & software switchable
- 256KB on board (640KB)
- 8088 CPU, v-20 option Si=3.7
- 150 power & turbo LED case
- FD controller/360KB drive
- 5060 keyboard
- Passed Turbo Test 99 Times

$435

PARCO 14″ Monitors

Amber, Green, Softwhite, RGB & EGA, Color

Amber/Green, Flat Screen (Mono/graph/prnt $47)	$115
Softwhite, Flat Screen (Mono/graph/prnt $43)	135
RGB Color (Color/graph/prnt $45)	265
EGA Color (Autoswitchable EGA $120)	375
Multiscan	475

PC Accessories

MS DOS 3.3 & G.W. Basic	$95
PC Power Center	35
PC/MS Mouse	59
EPROM Writer	130
1200 Super Modem	85
Citizen 120D Printer	160
Citizen MSP40 (240 cps)	310
Citizen MSP45 (132 column)	420

HARD DISKS

20MB ST225 Hard Disk (w/controller)	$290
30MB ST238 Hard Disk (w/ controller)	300
Wangtek	
40MB ST251 (40 msec)	420
40MB ST251-1 (28 msec)	480
3½″ FD DRIVES	
720 KB Teac	$120
1.4 MB Teac	160

80 Data | 80 Data | We Specialize in Desktop Publishing | 80 Data | 80 DATA

PC INTERNATIONAL
17000-M Vermont Ave.,
Gardena, CA 90247
(213) 532-4244

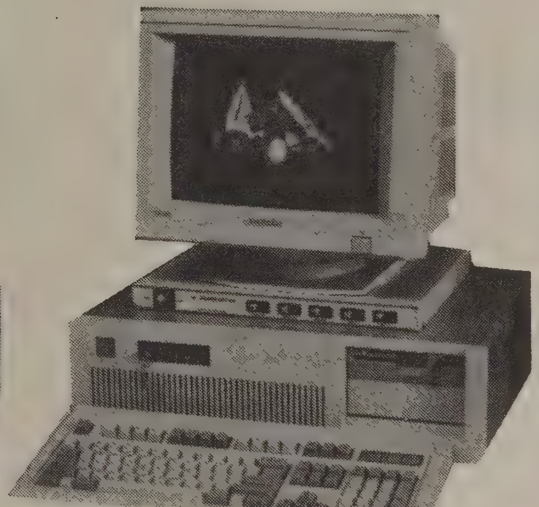
MBI Computer
8676 Lindley Ave.
Northridge, CA 91325
(818) 701-0146

Applied Business Computer
1743 Pacific Coast Hwy
Lomita, CA 90717
(213) 537-6183

Linex Systems
15052 Redhill Ave. #E
Tustin, CA 92680
(714) 259-1122

VISION 21 SYSTEM
16945 Bushard Street
Fountain Valley, CA 92708
(714) 963-1090

386 Performance - at 286 Cost



14 MHz 0 Wait 286 (SI=18.0)

Excellent for High Speed Applications

- 14 & 8 MHz dual speed
- 512 KB (80 nSec) DRAM on board
- Phoenix or Award Bios
- 200W power & Turbo AT case
- W.D. FD/HD controller
- 1.2 MB high density drive
- 5339 click keyboard

$1120

16 MHz 1 wait Baby 286 (SI=15.3)

Excellent for Workstation

- 16 & 8 MHz dual speed
- 512KB (100 nSec) DRAM on board
- Phoenix or Award Bios
- Baby 200W power & baby Turbo case
- 1.2 MB FD controller
- 1.2 MB high density drive
- 5339 keyboard (101 keys)

$975

16 MHz 0 Wait 286 (SI=18.7)

Excellent for AutoCAD & Networking

- 16 & 10 MHz dual speed
- 512KB (60 nSec) DRAM on board
- Phoenix or Award Bios
- 200W power & Turbo AT case
- W.D. FD/HD Controller
- 1.2 MB high density drive
- 5339 click keyboard

$1250

Prices subject to change.

Co-Processors

8087-2 (8/10 MHz XT)	$165
80287-8 (8/10 MHz AT)	250
80287-10 (10/16 MHz AT)	310
80387-16 (16/20 MHz 386)	550

This Month's Special

(Bring this ad with you)

Autoswitchable EGA card	$119
80 Data Super EGA monitor	$349
Multiscan monitor & VGA card	$795

DRAM

4164 (150 nsec)	$2^{25}
4164 (120 nsec)	2^{50}
41256 (150 nsec)	11^{00}
41256 (120 nsec)	12^{00}
41256 (100 nsec)	13^{00}
41256 (80 nsec)	14^{00}

We specialize in 80386 Systems

PC STAR
14747-A Artesia Blvd.
La Mirada, CA 90638
(714) 521-8161

80 Data

B.E. Computer Systems
7237 Canby Ave.
Reseda, CA 91325
(818) 708-1838

We Specialize in Dr. Office Manager

V & T Computer
2691 Richter #123
Irvine, CA 92714
(714) 474-7748

80 DATA

V & T Computer II
720 S. Euclid Ave. #3
Anaheim, CA 92802
(714) 635-1337

We specialize in Multiuser

A & P COMPUTER
14634 Carmenita Road
Norwalk, CA 90650
(213) 921-7156

REALIZABLE FANTASIES • BY JIM WARREN

Biofeedback On Your PC, Debunking The Voice-Activated Typewriter, And Other Matters

Herewith is offered more titillation for the techno-talented, and possible enchantment for entrepreneurs.

Expanding Biofeedback

A generalized biofeedback "experimenter's kit" should be a fascinating product—a peripheral to plug in to a personal computer. Sort of a "Paintbox" for sensory artists.

It would have electrical, moisture, pressure and temperature sensors in wrist bracelets and skin suction cups—like those found on EKG machines and truth detectors. Of course, it would include appropriate safety circuits, but most of the system would be harmless low-power devices, anyway.

The sensors' analog signals would be measured at computer-specified sample times and digitized; the results would be held in buffers, then transmitted to the experimenter's computer upon request. The most marketable units would probably appear to the computer as simply plug-in ASCII terminals, sending ASCII-coded input to the computer and accepting ASCII-coded commands from the computer via a standard terminal I/O port.

Such data acquisition peripherals have been plugged in to biomedical research computers for decades. This realizable fantasy simply makes those researchers' tools available to individual experimenters in an inexpensive, easy-to-use package.

Rethinking The Power Supply

Why does the mind's ear magnify the buzz of switching power supplies and the exponentially irritating whir of computer fans and disk motors? Most of us can sit in front of a fanless, low-power CRT terminal for hours—hooked to a remote computer. But our desktop computer's fan and motors often become unacceptable noise pollution after much less time—as does the buzz of many ever-on wireless-remote stereo/video widgits in a bedroom, late at night.

Our stereo, video and computer gadgets are already componentized—having separate tuners, amps, tape decks, CD players, keyboards, CRTs, printers, etc. Let's take it another step or two: make the power supply an essential-but-separate, plug-in component —just as many stereo system amplifiers are separate but essential components.

Consider the advantages: the single power supply could then be placed some distance from the user—and the user's ears. This might even be in a separate room, vented closet or sound-retarding cabinet. Smaller cables could deliver the safer, lower-power DC voltages to plugs on the backs of the computer, video and stereo components—and to halogen lamps, calculators, phone machines, electric erasers, microcassette dictation units, etc. Only one power supply would be needed, sized for the user's individualized set of gadgets. Each component would also be lightened by the weight of the absent power supply.

The half-dozen voltage converters now plugged into outlets could disappear. All gadgets could plug into the single voltage converter—just as all of the voltage converters now plug into the wall sockets that ultimately connect to the Great Power God in the Sky.

A separate power supply could be further componentized to allow options of line-voltage surge-protection on the AC side, and a UPS—uninterruptable power supply—on its DC side. That's for those power outages that Lord Murphy requires just before the user saves eight hours of creative labor.

A conservationist's aside: most UPSes now take 120V-AC, convert it to 12V-DC, store it in batteries—then take it from the batteries, convert it back to 120V-AC, and feed it into the computer . . . which converts it back to low-voltage DC power for the computer's integrated-circuit boards! Of course, there are power losses and heat generation at each conversion. Also, a single UPS'ed power converter would more easily connect to solar voltaic sun-power arrays.

More Capacity For Storage Devices

Manufacturers could expand the capacity of their rotating mass storage units—disks, CD-ROMs, etc., by a technique used by a few disk makers, but apparently not by most.

Laser and magnetic disks usually store data only on the outer perimeter of their platters. The middle and inner circumferences usually remain unused—because the pits/inch or bits/inch exceed the resolution of the recording technology if the same number of bits per track are squeezed into the smaller-circumference, inner tracks for the same density-per-track as they are in the larger-circumference, outer tracks.

However, if the middle and inner tracks were recorded with fewer bits per track, storage could be significantly increased on a given platter. The access arm would need a longer reach, and the controller would require more sophistication to handle sectors or tracks of differing storage capacities —but not much more.

De Bunk De Voice Typewriter

Did you notice the IBM ad on TV last year—the one about a typewriter driven by human speech? A friend reported that IBM demonstrated such a unit—sort of—at COMDEX last year. They said it was in a soundproof room with a trained operator—and never seemed to work.

Tech-novices beware: Machine recognition of generalized human speech is still a long, long way off—perhaps 25-50 years, even in soundproof rooms.

Tech-novices beware: Machine recognition of generalized human speech is still a long, long way off—perhaps 25-50 years, even in soundproof rooms. Yet there was no indication in IBM's television ad that such machines are still decades away from the average consumer.

There are multiple massive problems in developing such a technology. Recognizing a full vocabulary spoken by a given person at a given time verges on being possible, but the user must train the system to understand most words to be recognized and must say them exactly the same.

Recognizing more than several hundred words spoken by a given person at different times—e.g., once with and once without a head cold—is beyond the state of the art. Recognizing a given word spoken by different people at any time—e.g., "park" spoken by Westerners, Southerners and Bostonians—is far beyond the state of the art. Homonyms are another complex problem—words sounding the same but having different meanings in context. Background noise is a problem . . . and on and on and on.

Such grossly misleading ads weren't characteristic of Big Blew in the past.

Fantasy Overheard

Rumor has it that Apple is using a Cray megamonster supercomputer to design the next Apple—and that Seymour Cray says he's using an Apple to design his next Cray.

Share Your Innovative Intuitions

To add balance, while standing on each others' shoulders—rather than each others' toes—send your systems suggestions and implementable ideas-for-publication to Jim Warren, Realizable Fantasies, 345 Swett Road, Woodside CA 94062. Attribution for published proposals will be given to their authors, unless anonymity is requested. ☐

Copyright © 1988 by Jim Warren. All rights reserved. Jim Warren founded the West Coast Computer Faire, the Silicon Gulch Gazette *and* Infoworld *newspapers, Video Initiative, and the DataCast proposal for broadcast-based paperless electronic newspapers utilizing personal computers. He was the founding host of the PBS* Computer Chronicles *series, founding editor of* Dr. Dobb's Journal, *and founding president of the Microcomputer Industry Trade Association.*

ALR'S LARGEST
OFFERS TOTAL NETWORKING

FMS
COMPUTERS
AMERICA'S LARGEST ALR DEALER 1987

+

FASTEST PC IN AMERICA

ALR 20386 FLEXCACHE

COME SEE AMERICA'S FASTEST PC.

IN-STOCK FOR IMMEDIATE DELIVERY.

March 15, 1988
PC MAGAZINE

"Compaq's 386-20 eats the dust made by the ALR FlexCache 20386..."

=

YOUR BEST BUY IN 1988.

NOVELL NETWORK PACKAGES

THREE-USER ALR 386/2 SYSTEMS FROM $6895
(Installed)

DESKJET PRINTER
HEWLETT PACKARD (Model HP 2276 A)
Laser Quality $699

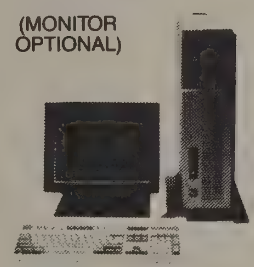
Live network in showroom!

NEC 286 POWERMATE

10 MHz
640K RAM
MS DOS 3.2
GW Basic
40 MB Hard Disk
Monochrome Monitor
One Year Parts & Labor

$1795

(MONITOR OPTIONAL)



ALR 386/2 SYSTEM PC MAGAZINE'S BEST PICK FOR 1987

- 80386 Processor
- 1 MB 32 Bit RAM
- 1.2 MB Floppy
- One Year Parts & Labor

$2395
(20 MHz)

IBM PS/2	Original Price	Save	Sale Price
Model 25 (720K Floppy)	$1395	$300	$1095
Model 30* (8086/20MB)	$2295	$700	$1595
Model 50* (80286/20MB)	$3595	$1100	$2495
Model 60* (80286/40MB)	$5295	$2200	$3095
Model 80* (80386/40MB)	$6995	$2500	$4495

*With Purchase of IBM Monitor

FINANCING AVAILABLE—FOR INDIVIDUALS AND BUSINESSES ON APPROVED CREDIT

FMS
COMPUTERS

(714) 583-1000
23052 Lake Forest Dr., Suite D-1
Laguna Hills, CA 92653
Hours: Monday-Friday 9am-6 pm;
Saturday 10 am-5 pm

- **SALES**
- **SERVICE**
- **TRAINING & SUPPORT**
- **UPGRADES**

▶ **EXCLUSIVE!**
CPA on staff, software consultation and training.
14 years systems experience. Call for appointment.

HEWLETT PACKARD Personal Computation Products
AUTHORIZED DEALER

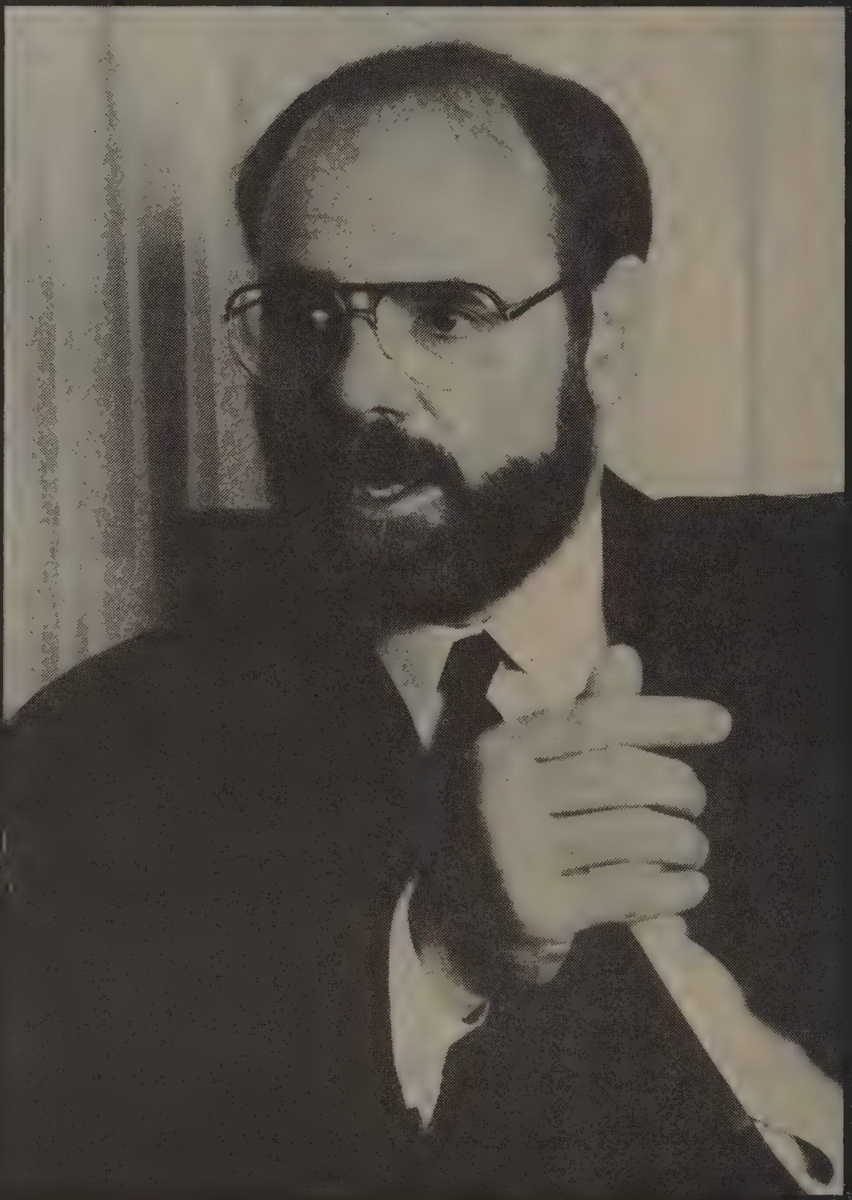
IBM Authorized Dealer

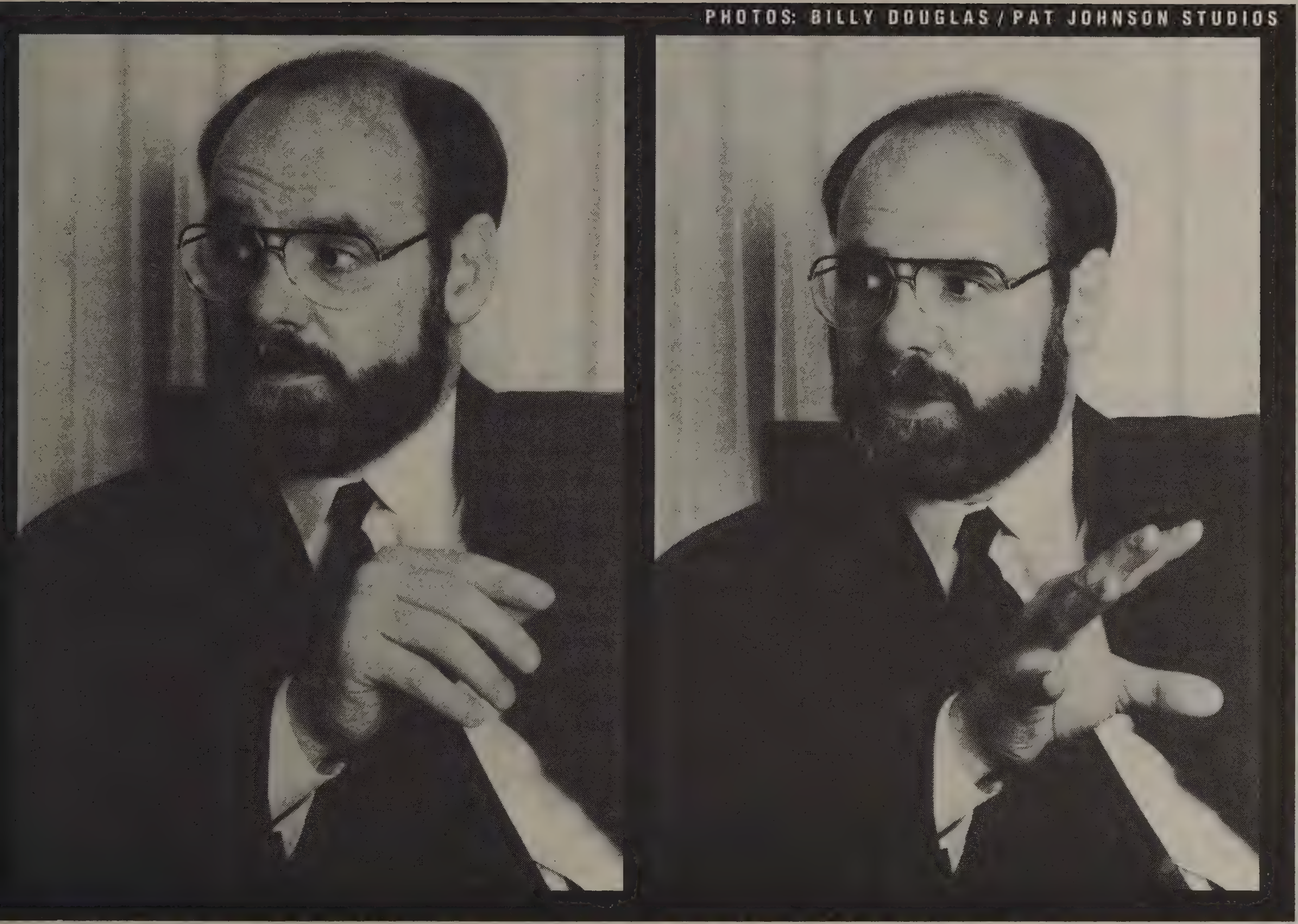
CALL FOR QUANTITY DISCOUNTS
WE ACCEPT CORPORATE P.O.'S.
Prices listed apply to cash sales only.
Prices limited to stock on hand.

WORK GROUPS IN BUSINESS COMPUTING

Symantec's Gordon Eubanks On The Multi-User, Multi-Vendor Office

By Mary Eisenhart





PHOTOS: BILLY DOUGLAS / PAT JOHNSON STUDIOS

Poised to take advantage of the impending groupware revolution and face the challenge of multi-vendor work environments, Symantec is a teamwork-oriented company, short on hype and long on productivity. Its products, for instance, are developed by teams of people with individual expertise in every area that affects the product's life, from concept to sales, thereby avoiding the all-too-common pitfall of technical and marketing departments working at cross-purposes. It now consists of four divisions, united in a comprehensive strategy for growth in a rapidly-changing, increasingly complex software market.

The company's history is one of careful strategic planning dating almost from its foundation in 1982. In that year, Gary Hendricks founded Symantec; at the same time, Denis Coleman and Gordon Eubanks started another company, C&E Software. As it turned out, the two startups shared common venture capitalists, and in 1984, the VCs had an idea. Recalls Eubanks, now president and CEO, "they said that the strategies that we, i.e., C&E software, were on, and where Symantec wanted to go were very similar. We had very good development technology, and Symantec had very good marketing experience and a lot of AI technology, so why didn't we put the two companies together, and form one company?"

The collaborative effort as a result of the merger yielded the first version of *Q&A*, a revolutionary file manager, now in its third version, which offered the then-unique ability to use natural language to access database records. Says Eubanks, "We wanted to target the very easy-to-use market, but with full functionality. *Q&A* uses natural language as one of the ways to access data; you actually ask questions in English. So you can have a database of hundreds and hundreds of records, of, say, people in a company, and ask the question 'What's the average salary?' or 'Who earns more than Bill?' It takes English and translates it into the normal algebraic query languages that databases use."

Realizing, however, that being a one-product company was a risky undertaking, Symantec began to consider expansion possibilities. In 1985 it created Turner Hall Publishing, which published the work of other developers. Today Turner Hall's product line includes a variety of utilities for Mac and PC, along with add-in enhancements for Lotus 1-2-3.

Last year saw rapid expansion via acquisition, as Symantec acquired THINK Technologies, whose products include the Mac and PC email and file transfer package *InBox* and the highly renowned Lightspeed C and Lightspeed Pascal programming environments, and Living Videotext, whose *ThinkTank* and *MORE*! have garnered awards, critical acclaim, and a secure foothold in the offices of America. Also in 1987, Symantec acquired Breakthrough Software, which developed and markets *Time Line*, the leading project manager in the PC market.

CEO Eubanks is, not surprisingly, a team-oriented manager. He's characterized the company as not a big fish gobbling up little fish, but as a whole school of fish swimming in the same direction. In an industry where egos often run rampant, Eubanks is quick to deflect attention from himself and praise the people of Symantec, enthusiastically and by name. Nonetheless, he agreed to discuss the general state of the industry, the challenges ahead, and how Symantec plans to address them.

What do you see as the common denominator among your various companies and product lines?

They're all personal productivity products. We don't view ourselves as being three or four companies brought together, we view ourselves as one company with a number of different product lines. I think the common denominator, besides personal productivity, is that we really strive to establish the leading product in a category. That is one of our prime strategies.

It worked for Lotus. . .

Of course it worked for Lotus, but I think it's also going to work for companies like Symantec, where we may not have a $300-million-a-year product, but have leading products that can be profitable and can be successful in the market.

We also believe very much in looking to the future. You want to know what's on the horizon, focus on the horizon, not just try to do just what's here today. That's what's driving us into the Macintosh technology and getting expertise in these new environments that are going to be the leading technology of the next five years. I think as a generality you can say that the industry's going to move from personal productivity into group productivity, from fulfilling personal needs to fulfilling the group needs, or serving the common needs of groups. That kind of environment. We're moving into the new user environments like Macintosh and Presentation Manager; and we're moving from just personal productivity products to products that serve the common needs of the group.

What new challenges does that present?

Well, it's a lot harder to develop. The graphical user interface is much harder, and when you do group products versus single-user products you have to be aware of a net, really have network-aggressive applications. That in itself takes a lot more development expertise.

So we're tackling two things at once—the graphical user interface like Macintosh is more difficult to develop for, and networks are more difficult to develop for. In the acquisitions of companies like Living Videotext and THINK, we got some really very talented developers—I wouldn't want to exclude any of them, but Peter Winer and Michael Kahl are certainly two people who have added great value in our development capability, and help us meet the challenges of the next five or ten years.

We started out to do a personal productivity product, which turned out to be *Q&A*, and went into doing, I think, some very smart acquisitions to bring strong technology into the company, to get us ready for the next five years, where we're really at what I call an inflection point. We're really going to change. IBM machines have been the dominant machines; Macintosh is making major inroads. The next generation is, I think, going to show much more strength for Macintosh and a series of products that are going to use graphical user interfaces similar to what the Macintosh does, and provides a lot more power to the users, a lot more functionality in the applications.

Apple has said that what we're going to see in the future is a multi-vendor environment rather than a single-vendor standard as existed with the IBM. Do you see that happening?

John Sculley speaks of a multi-vendor environment, and I agree with him completely.

I think IBM is going to be very successful; I'm a very strong supporter of OS/2 and Presentation Manager, but I do believe we're working in an environment where there will be different platforms, where we'll see Macintoshes and IBM machines and probably UNIX machines like the Sun workstations, running, perhaps, Open Look, which AT&T and Sun have enforced, and these machines will all be on networks and sharing data. It's hard to develop for networks, it's harder to develop for graphical user interfaces, and now on top of that applications have to run on different platforms, and always using a sort of a watchword of design to the highest common denominator to a platform, not to a low common denominator that works on all of them.

What this all really sums up when you take all the jargon away is that the development challenge has gotten much harder. We're really facing a mountain, not just an obstacle, when we talk about developing. It takes more teamwork, it takes strong management and leadership, and really strong experience in developing for these environments. But I really do believe that we will see a much more heterogeneous environment of computing.

I'm not anti-IBM, I don't predict their demise, I actually predict that they'll be successful in the next five years. I also believe that Apple will be successful, and certainly Sun has been successful to date in its market and has a reasonable chance in the personal computer market. NeXT has a very reasonable chance—Steve Jobs is brilliant visionary. AT&T can't be counted out. When I normally talk about the IBM, I'm really talking about IBM and the really fine companies that have built a business around doing compatible machines. That includes Compaq, Zenith, Tandy, Dell Computer, and many, many others.

There's a certain amount of confusion these days, because you've got the DOS/Enhanced AT standard, which continues to grow, and OS/2, and Macintosh, and UNIX/XENIX. Who should be using what, in your opinion?

In the mainstream business, professional and government use of personal computers, I think people might well be using DOS predominantly, (and the follow-on, OS/2), or the Macintosh and its family of products. I think both of those serve the business needs very well. I think they serve them because that's where the real applications are.

The thing I tell my friends who ask me is, really decide what you want to do with a personal computer. Read the magazines, the reviews, talk to people who use personal computers. The adage "Walk before you run" really does apply.

For a small businessman, their first inclination is "let's set up a whole extensive accounting and inventory." I say, "there's nothing wrong with that. But perhaps you could do something to get experience that was a little less ambitious but very valuable."

The most important thing to small

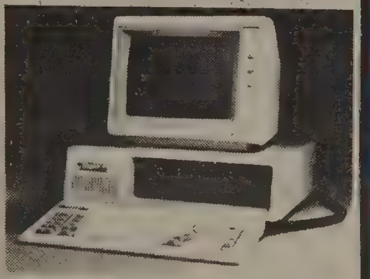
"The real truth of the matter is that computers are a tool, not an end in themselves. And if businessmen spend more time trying to fight the computer than they do running their business, then they won't be successful."

AMERICAN DIGITAL DISCOUNT ASSOCIATION

SUPER iXT SYSTEM

SUPER iXT/10MHz SYSTEM

- 1 Floppy Drive
- Ser., par., clock, game port
- CPU V-20 Chip (SI=3.7 approx.)
- Monochrome Monitor, Video Card with 0K Memory
- W/20MB Hard Disk & Controller



$749

Super iAT/12.5 MHz System

Super iAT/12.5 MHz System

• 0 or 1 wait state • 1.2 MB floppy drive • 40 MB hard disk (39 ms) • Hard disk and floppy drive controller • Monochrome monitor • Video card w/printer port • With 0K memory • 101 enhanced keyboard

$1295

please call for Super iAT 20 MHz

TOSHIBA LAPTOP-3120

ACER 1100

CPU-Intel 386
16MHz Clock Speed
1.2 Mb Floppy Drive
40 Mb High Performance Hard Disk

$CALL

TAPE BACKUP SYSTEM

ARCHIVE 60Mb Tape Backup

Self Contained & Menu Driven Image & File by File Backup • PC/XT, AT & Compatibles Quick Data Format

Internal	$495
External	$595
40MB Tape Backup	$325

MODEMS

1200 Baud Internal **$89**
Fully Hayes Compatible

ADDA 2400 Baud Internal
w/ProCom Software
Support Com 1 - Com 4
Made in U.S.A. **$139**

U.S. Robotics 2400 Baud
Internal w/BitCom Software
Made in U.S.A. **$169**

EGA MONITOR

TAXAN 770 Multivision
14" Screen, 800x600 . . . . . **$CALL**

TAXAN 765 Monitor
14" Screen, 650x350 **$395**

TATUNG cm-1495
Multi-Syn. Monitor
13" Screen, 800x560 **$495**

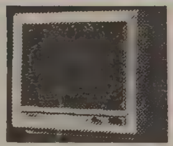
EGA CARD

800x600 EGA PLUS
Autoswitch Capability, 800x600, 132 Col EGA, CGA, MGA, VGA, Mode 11 & 12 . . . . **$165**

ATI NEW ENHANCED CARD
Auto-switch Capability, 800x560, 132 Column emulation supports VGA, EGA, MGA, CGA **$195**

RGB MONITOR

CGA Spec.
640x200
Resolution.



TAXAN 720	**$275**
ADDA RGB	**$245**

PRINTERS

240cps in Dot Matrix. 50cps in Near Letter Quality. Epsen 286 Compatible Tractor & Friction Feed.

FORTIS DM2015 - 132 Col.	**$395**
FORTIS DM2010 - 80 Col.	**$345**
DM1310 130cps, 80 Col.	**$199**

HARD DRIVE for PC/XT

20 Mb w/Controller	**$275**
30 Mb w/Controller	**$325**
80 Mb w/Controller	**$795**
100 Mb w/Controller	**$1495**

HARD DRIVE for PC/AT

20 Mb ST-125 (28mS)	**$CALL**
30 Mb ST-138 (28mS)	**$CALL**
40 Mb By Seagate (39mS)	**$425**
40 Mb ST 251-1 (28mS)	**$475**
80 Mb By Seagate	**$695**
120 Mb By Maxtor, 25mS	**CALL**

TTL MONO MONITOR

TTL MONOCHROME MONITOR
Samsung Flat Screen Monitor
14" Screen, Flat Screen **$115**

ADDA TTL MONITOR **$89**
12", hi-res

SPECIAL OF THE MONTH

U.S. Robotics
1200 Baud Internal Modem
w/Bitcom Software

$75

EMS CARD

0K Expandable to 2.5 Mb
Supports EMS Standard
Works with Lotus Release 2 Etc. w/Software

For AT	**$89**
D-RAM 41256	**$ Call**

ADD-ON CARDS

Mono Graphic/Printer Port	**$49**
Color Graphics Card	**$49**
CGD & MGD Combo Card	**$69**
AT FD&HD Controller WA2 (E044) Compatible	**$125**
XT Multi-I/O Card	**$69**
XT Mini-I/O Card	**$59**
AT Mini-I/O Card	**$69**

LASER PRINTER

LASER PRINTER
By HP
Laser II

$CALL

PC XT/AT KEYBOARD

KEYBOARDS
for
IBM PC/XT, AT

Enhanced AT Keyboard **$49**

FLOPPY DISK DRIVES

XT-360K	**$79**
AT-1.2 Mb	**$99**
AT/XT-3½" 720K	**$99**
AT/XT 3½", 1.44K	**$125**

POWER SUPPLY

Uninterruptable Pwr Supply
Power Failure Interrupt Signal to Computer
Back-up Power for 15 Min.
Noise Surpression & Surge Protection

500 Watt **$ Call**

POWER SUPPLY

150 Watt Power Supply For PC/XT	**$49**
200 Watt Power Supply For PC/Baby AT	**$69**
200 Watt Power Supply For PC/AT	**$79**

SYSTEM SOFTWARE

(New)
MS DOS 3.3
w/GW BASIC
$ Call

New Case

IBM
Model 50
Compatible Case
$CALL

IBM
MODEL 80
Compatible Case w/270W Power Supply
$CALL

ACCESSORIES

8087 Chip	**$ Call**
80287 Chip	**$ Call**
Printer Cable	**$12.00**
2-Way Data-Switch Box	**$29.00**
3-Way Data-Switch Box	**$39.00**
Power Directory	**$39.00**
Power Directory with Modem Protection	**$69.00**

Prompt delivery, usually shipment within 48 hours (except personal check orders). We welcome major educational institutions and government agencies to establish open accounts (P/O) status with us to facilitate shipment of orders. Write or call for details.

Prices quoted above do not include UPS shipment charges.
Prices subject to change without notice.
California residents add 6½% sales tax.
Mastercard or Visa add 3%

Business hours: Mon.-Sat. 8:30am - 5:30pm

IBM PC is a registered trade mark of IBM Corp.
TAXAN is a registered trade mark of TAXAN Corp.

©1987, American Digital Discount Association

AMERICAN DIGITAL DISCOUNT ASSOCIATION, INC.

In Torrance
4040 Spencer St., #M
Torrance, CA 90503
(213) 542-3578

business is to get repeat customers. The story I tell is that you can't get out of a Tandy store without leaving your name and address, because they know the value of repeat business and they're one of the nation's premier retailers. And so for many small businesses what I recommend is to get a product like our *Q&A* —there are other products, but of course I recommend *Q&A*(laughs)— and use it to maintain a customer list and keep in touch with them. Generate additional business from known, proven customers, get familiar with using personal computers, and then move into another application. This is something you can get your hands around.

Because the real truth of the matter is that computers are a tool, not an end in themselves. And if businessmen spend more time trying to fight the computer than they do running their business, then they won't be successful. Small businesses can use *Q&A* to keep track of customers, mail periodic letters or flyers to them—you can get very sophisticated, keep track of their particular preferences. Let's say a dress shop has some customers who are size 4, and they get in some 4s which are normally not common. They just do a mailing saying "Dear Sally, just a short note to let you know that we got a really good selection of size 4. I know there'd be some things there you'd really like. Why don't you come over this week? Sincerely, Meg."

That is good marketing. Not complex, but it helps small business. And the applications to do that are predominantly on the Macintosh and on DOS machines. In the next few years we'll have a transition where a number of people go from DOS into OS/2 and OS/2 with Presentation Manager. It's a natural transition.

One of the things I like very much about OS/2 is that it provides a very good link to DOS, you can run DOS applications, but in addition it solves *today* the biggest problems people had with DOS. It solves the 640K memory problem, it solves the ability to get more than one application in the computer at a time, and it solves the ablity to switch quickly between applications. So what is really sort of surprising me is that two years ago people were *clamoring* for these things. Now everyone's saying, "Oh, I don't know about OS/2, is it really worth it?" I think they're kidding themselves. I think that it does add value, it will add value. Companies like Symantec are committed to port our DOS applications into OS/2; for instance, *Q&A* and *ThinkTank* are available on OS/2 as well as DOS, and we will continue with other applications.

That's what I tell a small businessman. For a professional, I think, with personal computers, they should take a hard look at the way they do business. Most professionals are people who have to organize a lot of data, switch around rapidly, look at it a lot of different ways. I think products like our *GrandView* product or Lotus' *Agenda* product, which is being categorized as personal information managers—those kinds of products I really do recommend to professionals.

Both those products are excellent portable computer products. I think a portable often is an excellent choice for a professional. And of course if you do any kind of word processing, it only takes a few seconds to see the value of a word processor, and the same thing for a spreadsheet.

One of the obvious problems with the acceptance of OS/2 is that when it was announced, memory was cheap. The world has changed in the meantime, and RAM is now prohibitively expensive for many people. How serious do you think this is as a long-term problem?

I don't think it's a real long-term problem. It's still significant—it's hurting the Mac, it's hurting OS/2. It is a short problem; going into the second quarter of '89 at the latest, I think we'll see some real easing of the price and increasing availability. The world has a remarkable ability to deal with supply and demand issues in a free economy.

Another factor is that IBM makes their own DRAMS, so their supply is more than adequate. So I think there will be memory for our machines. I think, though, that the DRAM shortage has a definite impact on the OS/2 market; it's unfortunate, but we will see our way through this. We're not going to be faced long-term with a shortage of memory or processors or any other components of the machine.

IBM had a press conference recently where it announced that it had shipped its two-millionth PS/2 machine. Who's buying them?

All segments of the market. Certainly the corporations are buying them, but businesses are buying them, educational markets are buying them. I think that PS/2s are being bought across the board.

The PS/2 is a fine machine. I do not believe that the Micro Channel itself offers any technical advantage over the traditional bus for running either DOS or OS/2. That's a very technical discussion; there are some second-order advantages and disadvantages, but to the average user, your readers, I think they should choose the machine that they want because of the availability of the software, the add-on boards, the pricing of the machine for their budget, the support and service, and I don't think that they should let the Micro Channel be a deciding factor either in favor or against.

What do you see as the likely scenario for PS/2 clones?

I think that if really topnotch companies like Tandy have announced clones, they have every intention of delivering them, compatible Micro Channel machines, and I think they will be successful doing that. I think Dell Computer and other companies will deliver the machines. I believe it will happen.

Like a lot of things in life, it'll happen slower than they think, perhaps, but I really don't think that a company with Tandy's integrity and reputation would make that announcement if they weren't very confident that they could deliver.

Where there's a demand, people will find ways to provide equivalent products. I don't think it'll hurt IBM that much. I think that in fact it probably will help the Micro Channel, it'll help with additional add-on boards, and it'll help bring the price of the add-on boards down. One of the things about the Micro Channel is that the tolerances on the boards and the size of the boards make it more capital intensive and more of a challenge to build boards for the Micro Channel. I think the larger the market as a whole is, the better overall for IBM.

What do you think's going to happen with Presentation Manager vs. A/UX vs. Open Look?

I think that there will be multiple standards. I think Apple will extend its operating system to include multitasking. It already has MultiFinder, which is a very, very important first step. OS/2 has multitasking. I think we will see both the Macintosh and OS/2 Presentation Manager being dominant in operating environments, both providing multitasking, both being significant, important environments.

The graphical user interface is extremely important, not because it's necessarily per se easier to use, but because it provides a standard, a consistency. And what is important, if you want to go from one application to the other, is the consistency.

And also with the graphical user interface, like the one Apple has developed for the Macintosh, you have the ability to seamlessly integrate text and graphics. I think that's very important in today's market. People demand that level of sophistication and that level of prettiness in the output. Typewriter output doesn't make it any more. Integrating text and graphics, and in the future video—we're moving to where we will integrate these technologies together, and this new generation of operating environments, Macintosh, Presentation Manager, and perhaps NeXT and Open Look, certainly will be important. These things will be the next generation, and they will enable the new generation of applications, built on these operating environments and serving group needs instead of individual and personal needs.

This is important not only to the corporation or to the medium-sized business, but it's also important to the small businessman who starts out with one personal computer, starts an application like using *Q&A* for names and addresses. Soon they need two

"Going into the second quarter of '89 at the latest, I think we'll see some real easing of the price and increasing availability. The world has a remarkable ability to deal with supply and demand issues in a free economy."

VISIONS OF THE '90S...A VIEW FROM THE TOP

SAVE 25%
REGISTER BEFORE JULY 29TH

MAX TOY	Commodore
JOHN ROACH	Tandy
SAM TRAMIEL	Atari
MICHAEL DELL	Dell Computer
SCOTT McNEALY	Sun Microsystems
JOHN MORGRIDGE	GRiD
WILLIAM C. LOWE	IBM
JOHN P. FRANK	Zenith
ALAN P. HALD	MicroAge
KEN WATERS	ComputerLand
JIM TREYBIG	Tandem
TED PAPES	Prodigy

Explore the future of the Personal Computer industry with those who are creating it.

Dataquest Personal Computer Industry Conference

September 21-23
Silverado Country Club
Napa, California

Dataquest

a company of
The Dun & Bradstreet Corporation

CALL NOW
(800) 624-3282

Are you looking for reasonable prices, but still want reputable service?

SOFTWARE

PageMaker .... .435
Ventura .... .425
Lotus 1,2,3 .... .299
Word Perfect .... .219
MS-DOS .... .85
dBase III + ... .410

AST &
APPLE
Best Prices

EPSON

FX 86E .... .360
FX 286E .... .449
LX 800 .... .219
EX 800 .... .459
LQ 500 .... .369
LQ 850 .... .549
LQ 1050 .... .789
LQ 2500 .... .869

TOSHIBA

P321/341 .... .459/649
T1000/1100/1200 .699/1395/2195
T3100/20 .... .2950
T3200/5100 .... .3799/4850

HEWLETT PACKARD

LaserJet w/T & C .... .1750
DeskJet .... .699
ScanJet w/ I/O .... .1345
PaintJet .... .1050
Toner .... .89
Plotter 7475/7440 .... 1325/899
ThinkJet .... .359

COMPAQ

DeskPro 386/140 .... .4275
DeskPro 286 20/40 . . .2295/2495
Portable 386 40/100 . .5495/6995
Monitors .... .CALL

Memory Board BLOW OUT
HP Laser Jet II Expansion
1MB/2MB/4MB 299/589/1325
"CPI Boards"

CBC COMPATIBLE SYSTEMS
AT 10 MHz, 640K Complete 20 MB .... .1450
XT 8 MHz, 640K Complete 20 MB .... .1095
Ast Model 80 521K .... .1595

Demo Product Sale

Fuji DX 2200 with parallel . . .399
Fuji DX 2400 parallel .... .450
Ventel Modem Ext. 1200 ..... .99
QMS TS 800 Postscript 2400
ATT Mouse .... .69

Sales People Wanted

IBM Personal Computers

PS II Mod 25
Mono/Color 990/1260
PS II Mod 30
2 Dr/20MB 1199/1610
PS II Mod 50 20 MB ...... .2549
PS II Mod 60 40/70 . . .3125/3850
Mono Monitor .... .185
Color 8512/8513 ...... .425/1525
ProPrinter II/XL 370/540
ProPrinter X24/XL24 . . .545/690

CBC COMPUTER BUSINESS CENTER
2811 Ocean Park Santa Monica, CA 90405
(213) 452-2027

people for doing data entry, and they have to be able to say, no problem, *Q&A* works on a network, it's multiuser. The next step is to say that on that network I want an OS/2 machine for some reason, like maybe my accounting system uses it, and I also want a Macintosh, and yet people want to be able to use *Q&A* from all of those environments, on the network, sharing the same data.

It's a technology that really opens the door and the reason that these environments are possible is because of the new generation of hardware, the Motorola 68020, 68030, the Intel 80386 and follow-on processors, the SPARC architecture that Sun has developed. The large memory chips—there will be 4-meg DRAMs in the not-too-distant future. Sixteen megabytes will be the standard memory configuration for personal computers within a few years. And disks will get extremely fast and high-capacity; they'll be optical instead of magnetic. Removable read-write optical disks, 100, 200 megabytes, you throw them in your pocket or your briefcase or your purse or whatever.

How far away do you think that is?

That is 12 months away on the disks. Less than 12 months for read-write optical, high capacity, high performance. Now they already have low performance read-write optical.

The read-once optical was not a successful broad-based technology. It's very important in some applications, but read-write optical will be very important in the next year or two. All these things are bringing this inflection point I talked about earlier. New operating environments enable new applications.

Are you planning on doing anything with either UNIX or the DEC VMS platform?

We're looking at the UNIX opportunity, specifically Open Look. We think it has tremendous merit as a standard and an operating environment, and one that we would be very proud to have products running under. We haven't made any announcements or public commitments as of yet.

We're also supporting another operating environment that I think will be important—Deskmate from Tandy. I think Deskmate is something that has not gotten a lot of visibility; we have committed to put *Q&A* and potentially some other products under Deskmate. We think that Tandy is a real strong retailer and will do very well. And they're offering a much more sophisticated and uniform interface.

They're really serving the needs of the lower performance machines. Remember, the OS/2, Presentation Manager, Macintosh—all these require very powerful machines. But there are millions and millions of PCs out there, and Deskmate's really targeted at that. I think Tandy's made a very smart choice.

"The graphical user interface is extremely important, not because it's necessarily per se easier to use, but because it provides a standard, a consistency. And what is important, if you want to go from one application to the other, is the consistency..."

Not everybody needs a workstation.

Right, and not everyone can afford one. But there is tremendous value in consistent user interfaces. With the Macintosh, there's a consistency. Once you've learned it, it applies to other applications. You give me a Mac applicaton, and I can get a long way into that applicaton without using the manual. And the ability to have a graphical interface versus a character-based one has clear benefits. I was very skeptical about the mouse-driven interface; I now find it to be indispensable. When I'm using my PC, I'm always reaching for the mouse.

It is a very natural interface. So I think that Deskmate is a very intelligent move on Tandy's part. I particularly applaud their vision in making it available to allow people to put it on other than Tandy machines. Tandy's approach is to let any of the software vendors sell their products that run on anyone's hardware and include the Deskmate software in their application.

What sort of applications do you see arising out of the new importance of workgroups?

I think the one that people can relate to the easiest is electronic mail, where in a small office or even a medium or large office, you've got a

[illegible] Electronics Corporation

SHARP. FIRST IN HOME OFFICE WITH PRODUCTS AND PROGRAMS.

Nearly 25 million Americans work in their homes part or full time. And that figure is escalating fast.

It's no surprise that Sharp offers the most complete line of home/office products available in this booming market. And every product is virtually maintenance free, cost-effective and easy to use.

Sharp also designs these products with a handsome, family look to encourage multiple sales with better margins for you. And unlike other companies, Sharp is organized to let you order from a single source.

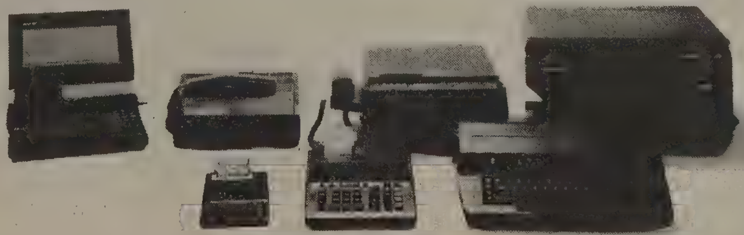
The Sharp Home/Office System is now comprised of fax machines, copiers, desktop calculators, typewriters, and computers, with special models for your distribution. And with more products on the way.

Sharp's Home/Office System is supported by all-out national advertising as well as a complete array of sales promotion and merchandising packages.

The opportunity to claim your stake in the enormous and fast growing Sharp Home/Office market is now. Call **New Age at (800) 322-2230** They'd like to tell you more.

HOME/OFFICE ELECTRONICS

SHARP.
FROM SHARP MINDS COME SHARP PRODUCTS™



Top Row PC-4502 Lap Top Computer, UX-140 Facsimile, UX-80 Fax, Phone, Copier, Z-70 Compact Copier
Bottom Row: EL-2626 Desktop Calculator; EL-2630 Desktop Calculator, PA-3140 Electronic Memory Intelliwriter™

Call for details:
(213) 518-1180
(800) 322-2230
FAX: (213) 518-2084

NEW AGE
NEW AGE ELECTRONICS, INC.

Distributed By:
NEW AGE ELECTRONICS
22310 Bonita Street • Carson, CA 90745
Also carrying Toshiba, Panasonic, Packard Bell, Magnavox, Star

ATTENTION!!

DEALERS, NET-WORK SYSTEM INTEGRATOR & VARS.

For six years, PO HAI International Corporation has been devoted to quality computer case manufacturing in Taiwan. In this short time, our business has grown from 10 K to 600 K cases annually. For providing better service to our USA customers PO HAI has set up the first distributing center in West Coast in September 1987 and this March (1988) PO HAI's East Coast distributing center has been established as well. We would like to thank all of our American customers for helping us to make PO HAI International Corp. one of the largest computer case supplier in USA. Also, we would like to extend our invitation to all computer OEM manufacturers and dealers to give us a try.

Expanding our service to the PC industry, we now stock top quality power supplies and mother boards in our warehouse to supply your immediate requirements.

We simply realize that MOTHER BOARDS, POWER SUPPLIES & CASES are three essential elements for the computer system which are just as vital as the three elements to life. By using top quality elements we build up the toughest "BARREBONE" for the system.

Po Hai **10 MHz**
XT Mother Board

Po Hai **IT286SB**
Baby AT Mother Board

PH-02
PH-31
PH-06
PH-16
PH-10
PH-03
PH-22
PH-11
1
YEAR LIMIT WARRANTY
PARTS
&
LABOR

Power Supplies

1 year limit warranty parts & labor
For detail warranty and credit policy please call.

PO HAI PRESENTS THE CUSTOM BAREBONE IN SERIES FOR YOUR WIDE SELECTION.

Besides, Po Hai is the only company in a position to supply you all kinds of barebone units with the combination of varieties of cases in stock. Select a case style you like from the photo below then we will build the BAREBONE as per your order.

10 MHz XT Barebone

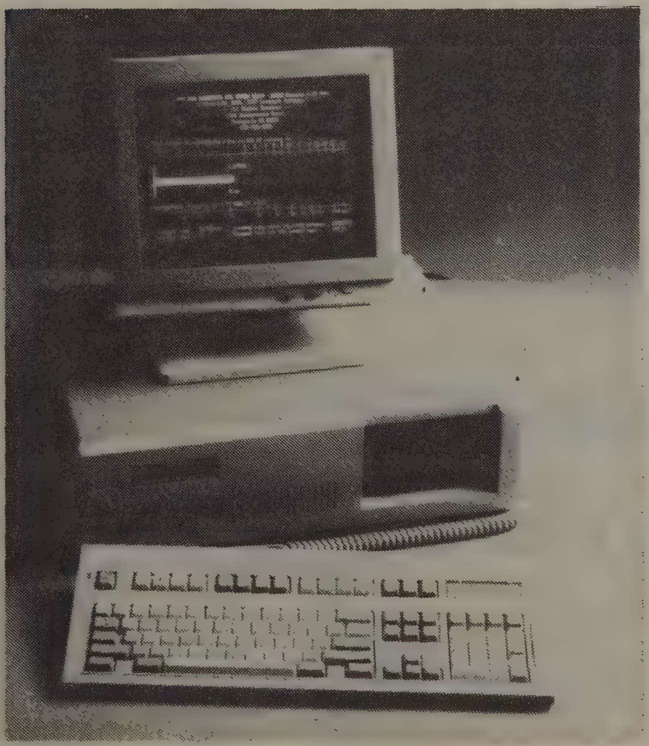
$145.00

- * 4.77/10 MHz Mother Board AT your discretion PH88-1, DTK, VIP
- * W/Legal Bios
- * 150W Power Supply
- * PH-6A, 6-1A & 3A Case
- * FCC Class A Certified

If using PH-32 case please add $5.00/unit.
For using PH-31A case please add $17.00/unit.
For using UL power supply please add $6.00/unit.
* Minimum order 10 units at a time for this price.

For 8 MHz XT Barebone unit our price

$135.00

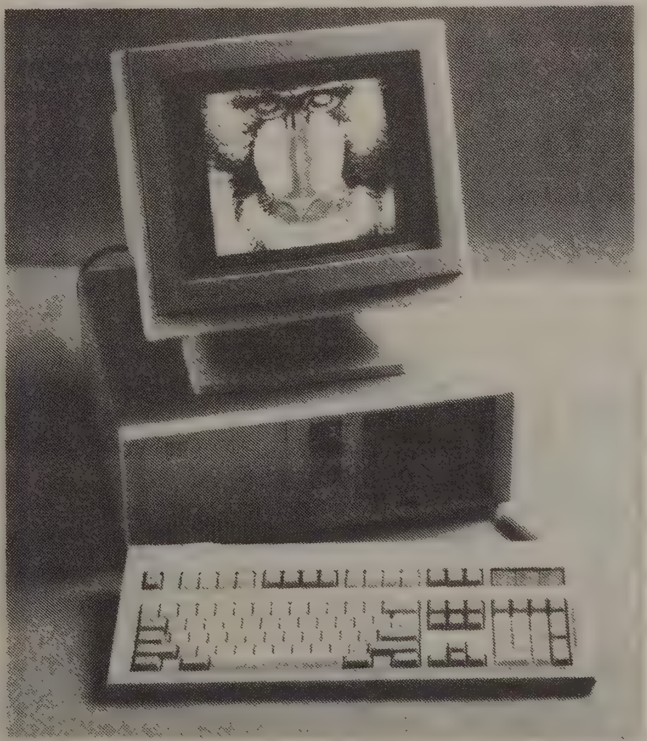


12 MHz Baby AT Barebone

$385.00

- * 80286 Baby AT Mother Board
- * Award Bios
- * 200W Power Supply
- * PH-21A, PH-22A or PH-31A Cases
- * FCC Class A Certified & Class B Pending

For using PH-10, 11, 12, 17 cases please add $6.00/unit.
For using UL power supply please add $8.00/unit.
* Minimum order 4 units at a time for this price.



* Generic packing carton with sponge foam US$9.00/set.

All prices are quoted FOB S. El Monte CA 91733

Po Hai International Corp.

For full lines of our products:
Please call **Tel: (818) 444-0548**
444-0549
Fax: (818) 444-2318

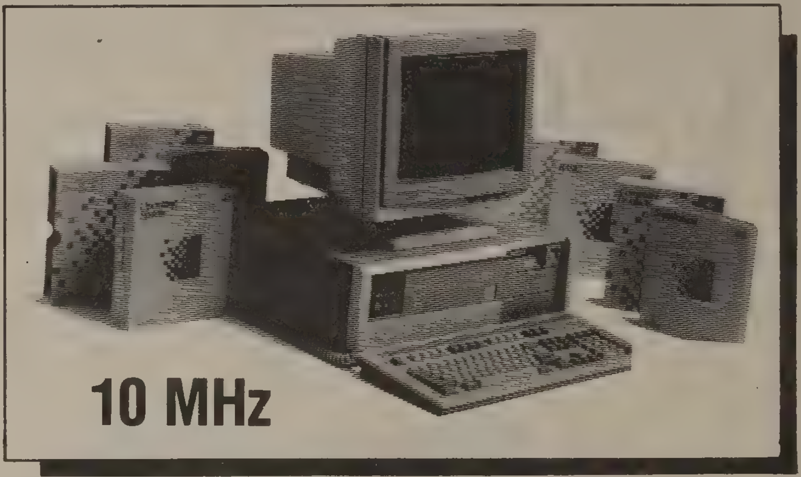
West Coast Warehouse:
2105 N. Central Ave.
So. El Monte, CA 91733

Office hour:
Mon. thru Fri. 8.00 AM - 5.00 PM

Now at House of Computers...

"Best of 1987"
—PC Magazine
January 1987

"ACER 900 10 MHz... Editor's Choice"
—PC Magazine
April 1987



1988 - ACER
is NOW 12 MHz

AST
Premium
COMPUTER PRODUCTS

AST Model 80
AST Model 140
AST Model 90

COMPLETE SYSTEMS START AT $1995

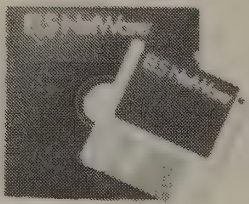
Acer

ACER 1100
(386, 40MB, 16MHz, 1 MB)
ACER 900
(286, 40MB, 10MHz, 640K, mono mon)
ACER 710
(8088-2, 40MB, 4.77 & 10 MHz, 640K)

COMPLETE SYSTEMS START AT $1395

TRW On-site Service

Upgrade to
72MB.......only $699 w/trade!!!
24-pin LQ
NEW from NEC.......only $365!
NEW Delta
Gold Computers....Good Price!!



ELS NetWare
Entry Level Solution
Networking Software
supports up to 4
stations

COMPAQ

386/20 MHz (60, 130, 300 MB)
In Stock .... **$CALL**
Portable 386 (40, 100 MB)
In Stock .... **$CALL**
Portable III (20, 40 MB)
In Stock .... **$CALL**

TOSHIBA

1000	**$875**
1200	**$CALL**
3100/20 MB	**$3099**
3200 and 5100	**In Stock**

We Do Upgrades!
We Service All Makes and Models!!

Yes, we carry IBM PS/2!

NETWORKING PCs IS ECONOMICAL — CONSIDER IT!

Ideal for small office environments including:
Dental & law offices (Large multi-user systems available.)
Let your PCs share information and expensive peripherals!

As low as **$595**

NOVELL
NetWare

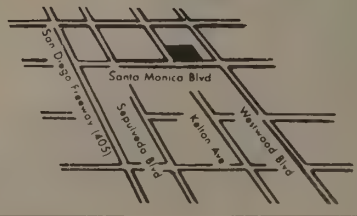
FREE EVALUATION

MAKE YOUR APPOINTMENT NOW!

HOUSE OF COMPUTERS inc
1792 Kelton Avenue • Los Angeles • California 90025

(213) 479-7745

Hours: M-Th 9-7
Fri 9-6 Sat Noon - 5pm



receptionist, you're taking messages, you're passing paper around. It can be done electronically. We do this at Symantec. Every phone message, the receptionist sits there at a computer, types an electronic mail message, sends it out. I can get the messages at 11:00 at night, or 3 in the morning, or I can get them from New York."

Electronic mail will become much more sophisticated in the next two or three years. We'll have sort of add-ons to mail systems that can sort mail, analyze it, prioritize it, do some simplistic reading of it, looking for key words, understanding that messages from this group of people are top priority, etc. It's a very important technology. Electronic mail needs to be not just in a group, but it has to allow the group to contact the world, bridging to other networks of the company in other locations, or to wide area networks like MCI Mail. This is the kind of electronic mail environment we're going to have in the next 24 months.

Another area which is groupware, for serving collective needs, is in the presentation area. At first people think, well, presentation, that's sort of a personal thing. You do a presentation, you do overheads. Most people use a Macintosh for these things; they use a product like [Living Videotext's] *More* to do a presentation.

But really, if you think about it, in any organization there are different parts of the organization that really care intensely about different parts of the presentation. The person giving it really needs to have a tool that focuses completely on the content. But for the graphic artist's department, or the corporate communications department, they want a tool that can make the presentations meet the corporate standards of the business' standard form. So you need a tool that can both allow the creative department to set up a format for slides and overheads and transparencies, at the same time that a manager might be able to put the data in. So this is another product that you really have to be able to take the design of the presentation separate from the content of the presentation, and be able to integrate them together.

Another aspect of presentations is interactive presentations to a group of people, where you're sitting there with a wide screen. Apple has large monitors in some of their conference rooms. You need to be able to sit there and not only go through the presentation sequentially on the monitor, but flip randomly through it. This is going to be a very large technology in the next five years—all presentation products having the ability to do interactive presentation. And when you're putting them on the wide screen, the speaker needs to have a local screen with all the data—how long they've talked, what the average per slide, notes for the slides that only the speaker sees—all these things are part of the group aspects of the next generation of products.

Another groupware is in the need to consolidate, where people are using personal computers and they need to pass information in a network, which then maybe goes up into a mainframe. One area of this is in project management. Symantec has a product, *Time Line*, which is very successful, the leading project manager on micros; but we did an arrangment with the leading mainframe project manager, *Artemis* from Metier, so we could pass data back and forth. So that's a group application.

One that's probably closer to home is spreadsheet consolidation. Spreadsheets are incredibly good personal tools, but the real next step in spreadsheets would be companies like Lotus developing the ability to consolidate spreadsheets. At Symantec we all use spreadsheets, of course, to do our budgets, but then they're all handed in to the CFO—now how does he consolidate them? and when we make a change, how do we quickly get the new bottom line? This is a very important group aspect of computing, instead of just a personal aspect. Scheduling is another one—I want to schedule conference room; when can I get together with my staff? When's the next time everyone's in town—that kind of scheduling.

The bottom line on this is that the opportunity for applications is just immense in the next five years. And for individuals to develop applications, I think the opportunity on the Macintosh and OS/2's presentation manager are incredibly exciting, as big as it was ten years ago, almost. And now there are existing companies like Symantec and many others, who are eager to take products from individuals and publish them. So now is the time when people who are really interested in developing products, have a lot of skills, but they think, well, it's just impossible now to start a company. Well, it may be impossible to start a full-range company that does all aspects of the job, but to publish a product at another company, like Ashton-Tate, like Symantec, like Software Publishing or Microsoft—have one of those companies publish your product, is a very good opportunity today. And all the major companies publish products that are done by outside developers, different companies to a different extent.

Is there any particular kind of application you're looking for?

We're looking for applications that are in general business oriented, in general have wider appeal, not very vertical, and we're looking for applications that we believe can be dominant in a category. We don't necessarily only look at applications that can sell 20,000 units a month—we're interested in products that in their category, in their niche, can be very dominant. We're interested in Macintosh products, and also in products under Windows and Presentation Manager. (Symantec, 408/253-9600)□

Want to save Time, Money, & Headaches?

GET SUPERSOFT's SERVICE DIAGNOSTICS

All the software, alignment diskettes, parallel/serial wrap-around plugs, ROM POSTs and extensive, professional documentation to provide the most comprehensive testing available for IBM PCs, XTs, ATs and *all compatibles* under DOS or Stand Alone. No other diagnostics offers such in-depth testing on as many different types of equipment by isolating problems to the board and chip level.

NEW: SuperSoft's **ROM POST** performs the most advanced **Power-on-Self-Test** available for system boards that are compatible with the IBM ROM BIOS. It works even in circumstances when the Service Diagnostics diskette cannot be loaded.

NEW: 386 diagnostics for hybrids and **PS/2s!**

For over nine years, major manufacturers have been relying on SuperSoft's diagnostics software to help them and their customers repair microcomputers. End users have been relying on SuperSoft's Diagnostics II for the most thorough hardware error isolation available. Now versions of Service Diagnostics are available to save everyone (including every serious repair technician) time, money, and headaches in fixing their computers, even non-IBM equipment.

All CPUs & Numeric Co-processors
System Expansion & Extended Memory
Parallel & Serial Ports
Mono, CGA, Hercules & EGA Adapters
All Keyboards & the 8042 Controller
All Color Graphics & Monochrome Monitors
Floppy, Fixed & Non-standard Disk Drives
Standard & Non-standard Printers
System Board: DMA, Timers, Interrupt, Real-time Clock & CMOS config. RAM

Join the ranks of XEROX, NCR, CDC, SONY, PRIME, ... who have bundled SuperSoft's diagnostics with their microcomputers at no risk because of our 30 day money back guarantee.

Service Diagnostics for PC, PC/XT, and compatibles only	$169
Alignment Diskette for PC, PC/XT and compatibles (48 tpi drives)	$ 50
Wrap-around Plug for PC, PC/XT and compatibles (parallel and serial)	$ 30
Service Diagnostics for AT and compatibles only	$169
Alignment Diskette for AT and compatibles (96 tpi drives)	$ 50
Wrap-around Plug for AT (serial)	$ 15
ROM POST for PC, PC/XT, and compatibles only	$245
ROM POST for AT and compatibles only	$245
Service Diagnostics: The KIT (includes all of the above—save $502)	**$495**
Service Diagnostics for all other CPUs (386, V20, V30, Harris, etc.)	$195
Diagnostics II is the solution to the service problems of users of all CP/M-80, CP/M-86 and MS-DOS computers	$125
ROM POST for PS/2 and compatibles only	$245
Alignment Diskette for PS/2 and compatibles (3.5 inch)	$ 50

To order, call 800-678-3600 or 217-359-2112, FAX 217-398-5923, or write Supersoft

your microcomputer repair solution

SuperSoft

FIRST IN SOFTWARE TECHNOLOGY P.O.Box 1628 Champaign, IL 61820 (217) 359-2112 Telex 270365

SUPERSOFT is a registered trademark of SuperSoft, Inc.; CDC of Control Data Corp.; IBM PC, AT & XT of International Business Machines Corp.; MS-DOS of MicroSoft Corp.; NEC of NEC Information Systems, Inc., PRIME of PRIME INC ; Sony of Sony Corp

Image Libraries For Freelance Plus

By Woody Liswood

The biggest problem we all face in using Freelance for presentations is that we soon use up the set of images which came with the package. Now that there are libraries of images available, I can pick just the right illustration to make that text-based slide interesting to look at.

With the continuing popularity of Lotus *Freelance Plus*, several companies now offer libraries of images to supplement the limited library that *Freelance* comes with.

In addition to being able to fix up Lotus 1-2-3 graphics, *Freelance Plus* contains a small charting function and the ability to create drawing and text material. It has a multitude of fonts and works with a wide variety of graphic output devices such as plotters, printers, screens, film and high density film matrix printers.

The biggest problem we all face in using *Freelance* to create overhead slides and other images is that we soon use up the set of images which came with the package. Now that there are a few libraries of images available, I can pick just the right illustration to make that text-based slide interesting to look at.

FreelanceMaps

FreelanceMaps is a good place to start. It consists of two packages — images for the USA and for the rest of the world.

For the USA, you can get all of the states individually, grouped together in a single US map, and add cities and state names as needed. If that doesn't do it, each state is also a separate image, and within each state you can have county lines. Within these counties you also get city names. If you like mail, each state can be divided into the U.S. 3-digit ZIP Codes. And, for the politically aware, the states can be divided by congressional districts. Also available are MSAs (Metropolitan Statistical Areas) and PMSAs (Primary Metropolitan Statistical Areas). And, if you need even larger groupings, *FreelanceMaps* supplies CMSAs (Consolidated Metropolitan Statistical Areas). The package contains 257 MSAs, 23 CMSAs and 78 PMSAs.

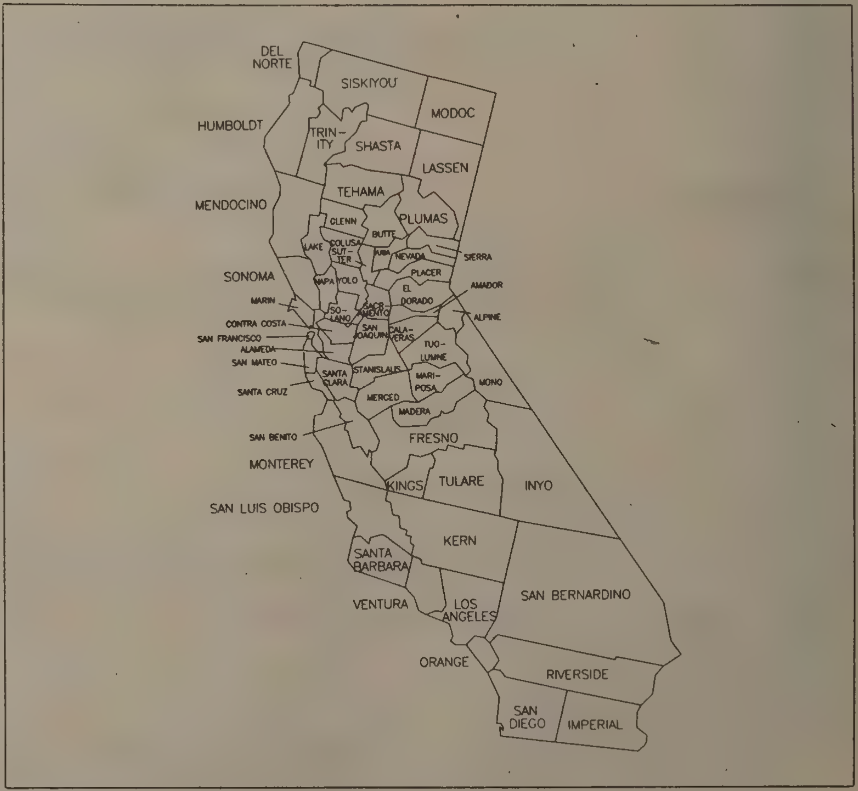
The areas are all polygons when read from the disk, so you can color them individually. They are also drawn to the same scale, so you can call them, as needed into *Freelance Plus* page 2, then copy them to page 1; after copying you will find that they are in the appropriate physical location for the state you are working with.

For the rest of the world, the package is not as detailed. You do, get the world, each of the continents, and, within each continent, the recognized national boundaries. Canada also has the province boundaries.

Bitfolio

Of all the library image packages, *Bitfolio* has the most images with the best quality for the best price. For $250 you get over 200 images. Each image is provided in two files, one optimized for a pen plotter and the other optimized for a high resolution matrix printer. The entire package occupies over four megabytes. The plotter files all have the extension pen and the matrix files have the extension of SLD. If you are not going to use a matrix device to print the slides, then just don't copy them to your hard disk.

For the most part, each *Bitfolio* file contains a single image. Some contain more than one. There are a number of slides which can be used in sequence (such as a runner starting, sprinting, and crossing the finish line) so you can build your presentation in a logical manner. The pen slides produce quality images on a pen plotter as well as an HP LJ II printer. *Bitfolio* uses the pen colors located at the high numbers from the


DEL NORTE
SISKIYOU
MODOC
HUMBOLDT
TRIN-ITY
SHASTA
LASSEN
TEHAMA
MENDOCINO
GLENN
PLUMAS
BUTTE
LAKE
COLUSA
SUT-TER
YUBA
NEVADA
SIERRA
PLACER
SONOMA
NAPA
YOLO
EL DORADO
AMADOR
MARIN
SO-LANO
SACR-AMENTO
ALPINE
CONTRA COSTA
SAN FRANCISCO
SAN JOAQUIN
CALA-VERAS
ALAMEDA
TUO-LUMNE
SAN MATEO
SANTA CLARA
STANISLAUS
MARI-POSA
MONO
SANTA CRUZ
MERCED
MADERA
SAN BENITO
FRESNO
MONTEREY
KINGS
TULARE
INYO
SAN LUIS OBISPO
KERN
SANTA BARBARA
VENTURA
LOS ANGELES
SAN BERNARDINO
ORANGE
RIVERSIDE
SAN DIEGO
IMPERIAL

Freelance Maps from Lotus includes state and county maps, with areas identified.

For Your Accessories Only

COMPUSTORE

Division of Data Bureau, Inc.
1919 Wilshire Blvd., Santa Monica, CA 90403

(213) 828-7752

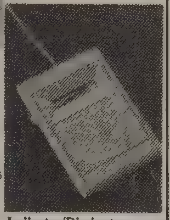
Showroom Hours
Mon-Fri **9-7** Sat **10-6**

Perfect-Vu
Optically correct shatterproof screen filters for just $\$29^{95}$! Perfect-Vu screens reduce glare by 96%. Made of shatterproof, scratch resistant, and easy-to-clean specially formulated acrylic, which offers unique light absorbing and diffusing characteristics. Mounts in seconds to a terminal with self-stick Velcro fasteners. $\$29^{95}$

Order Code	Dimensions
AG-105700	10⅜″ x 7⅞″
AG-105701	11⁷⁄₁₆ x 8⅜″
AG-105702	12″ x 9½″
AG-105703	13″ x 10¹³⁄₁₆″
AG-105704	12″ x 8¹³⁄₁₆″
AG-105705	11⅝″ x 8⅞″
AG-105706	12¹¹⁄₁₆″ x 7¹³⁄₁₆″
AG-105707	9⅛″ x 7⅜″

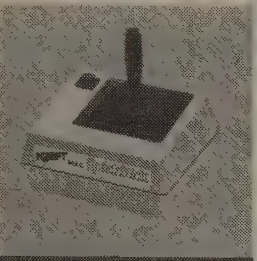
NOTE: sizes shown are outer dimensions and include ¼″ frame.

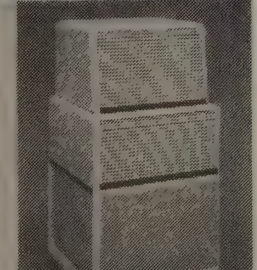
Deluxe 5¼″ Diskette File
This disk file offers many features of more expensive products at a very low price. Made of high impact plastic with a smoked color locking lid. Stores 100 diskettes and comes with eight dividers and colored labels. Provides an easy access handle for transporting. DS-DX100L . . . . $\$10^{95}$

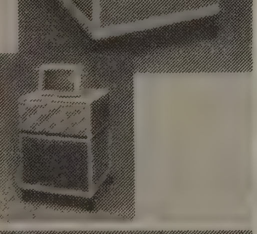


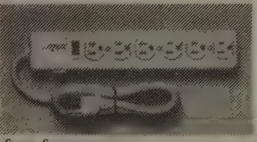
Staticlear Static Indicator/Dissipator
This unique accessory virtually indicates and dissipates any harmful static the user might have before it charges through system components. A 10 foot long one megohm resistor grounding wire attaches to any 110 volt outlet. LCD display button dissipates it. Putty in color, constructed of high impact styrene. AS-450 . . . . $\$24^{95}$

Products
- Anti-Glare Screens
- Anti-Static Accessories
- Cables
- Carrying Cases
- Cleaning & Maintenance Products
- Data Display
- Data Switches
- Dust Covers
- Furniture
- Labels
- Laser Toner Cartridges
- Magnetic Media
  - Data Cartridges
  - Data Cassettes
  - Disc Packs
  - Disc Cartridges
  - Diskettes
  - Magnetic Tapes
- Paper
- Plotter Accessories
- Power Protection
  - Battery Back-up Systems
  - Line Conditioners
  - Surge Suppressors
  - System Controllers
- Printwheels/Thimbles
- Ribbons
  - Data/Word Processing
  - Genuine Brand (OEM)
  - Typewriter
- Security
- Storage and Filing Systems
- Diskette Library Cases
- Diskette Looseleaf Files
- Diskette Mailers
- Printout Binders
- Workstation Accessories





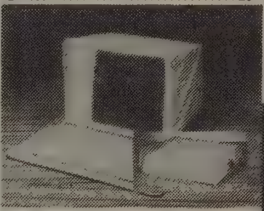




Surge Suppressor
Single-Stage Protection, DG-115S
SS-DG115S . . . . $\$39^{95}$
Three-Stage Protection, DG-315S
SS-DG315S . . . . $\$69^{95}$

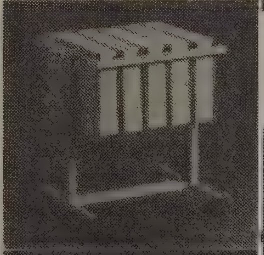
Move computer data between multiple peripherals with a flick of a switch or the push of a button! **Belkin Data Switches** do away with the need to move cables manually from, for example, a letter-quality printer to a high speed dot-matrix printer. With the two-position switch available in both rotary and push button models, the operator can switch a computer port between a printer and modem, or share a terminal with two computer systems. Four position rotary switches can connect up to four compatible devices to a fifth So, four computers can share one printer or four terminals can share a single modem. There is even a five position rotary model available. All Belkin Data Switches are available for Centronics (Parallel) or RS232 DB25 peripherals. Come in a fully shielded metal case. One year warranty.

Universal System Stand
This System Stand adjusts from 4″ to 7½″ to accommodate almost any system unit. Constructed of high-impact ABS, it is colored and textured to match or complement all microcomputer systems. Lifetime warranty. DF-SS3 . . . . $\$29^{95}$



Dust Covers
Dust covers by Attitype provide economical protection for computer components from dust, dirt, and spills. Covers are made of heavy duty anti-static vinyl with machine stitched vinyl seams and are available in one, two or three piece styles.

Pricing Code A . . . . $\$10^{95}$
Pricing Code B . . . . $\$12^{95}$
Pricing Code C . . . . $\$14^{95}$
Pricing Code D . . . . $\$16^{95}$

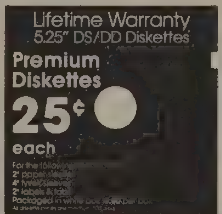


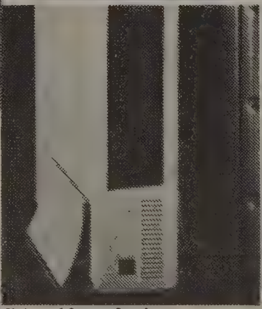
The Sound Manager
Acoustical printer enclosure blocks out more than 90% of printer noise for just $130.

Quality materials, superior noise reduction and a low silhouette design make the Sound Manager enclosure the distinct, elegant alternative to bulky printer sound enclosures. Sound Manager lowers the printer sound level more than 20 dBA, significantly more than many other larger and more expensive sound enclosures currently on the market. Constructed of sturdy structural foam plastic, the unit is fully lined inside with thick, yet lightweight sound absorbing foam. A large angled tinted viewing window is set inside the high impact injection molded styrene top. Support legs are included to lift the unit three inches to accommodate a supply of paper underneath. Fits perfectly on top of the MicroManager. Inside dimensions are 7⅞″ h x 24½″ w x 16½″ d.

And, it's available in a portable version, which includes a heavy duty carrying handle, lid clasps and nylon straps with release buckles to hold the printer securely in place while in transit. Also available is an optional 3″ fan, easily installed with four screws.

Stationary Sound Manager
DF-4000 . . . . $\$129^{95}$
Portable Sound Manager
DF-4010 . . . . $\$149^{95}$
Sound Manager Fan
DF 4020 . . . . $\$69^{95}$

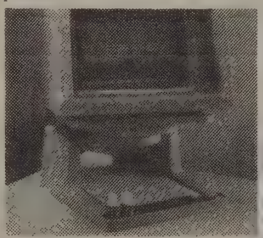




Universal System Stand
Gets the computer's bulky system unit off the desk and out of the way. Molded from high strength ABS plastic, this stand adjusts to provide solid support for any PC from 4½″ to 6½″ wide. Fits PCs from IBM, Apple, Compaq and others. DF-62200 . . . . $\$29^{95}$

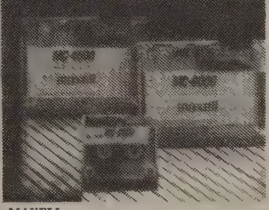
Mailbox
This anti-static mailer is made of durable plastic to protect diskettes in transit. Holds five diskettes and comes with self-adhesive mailing label. DS-DX4 . . . . $\$1^{95}$

Easy Drawer
Cantilever drawer holds a keyboard up to 2¾″ h x 20″ w x 9½″ d. Drawer extends to locked position. Computer and CRT are supported by a baked enamel reinforced steel platform. DF-DT21 . . . . $\$79^{95}$



CRT Bridge
Three great features in one for a low retail price of just $\$49^{95}$. A 12″ w x 12″ d x 5½″ h platform lifts the CRT off the desk to clear room for other desktop items below. A 2″ h swivel base attached to the top of the platform holds the monitor and provides 360 degree revolution and 12.5″ up and down tilt. Finally, a 9¼″ w x 11¼″ d storage area under the platform holds off miscellaneous items. DF-480 . . . . $\$49^{95}$

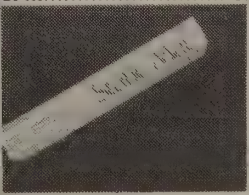
Cases
P.A.C.E. soft-sided cases provide the best possible protection for portable computers with high density foam padding. All feature heavy duty YKK zippers, molded Fastex hardware and adjustable padded shoulder straps. Each case is equipped with accessory pockets and a locking zipper pocket to help protect valuable diskettes. Available in gray and navy blue.



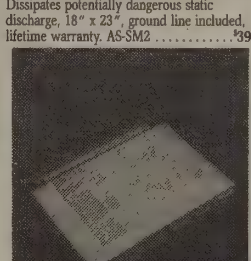
MAXELL
Data Cartridges

Description	Order Code
MC2050 Compatible with 3M DC2000	**TC-MC2050**
MC4500 Compatible with 3M DC300XL/P	**TC-MC4500**
MC6000 Compatible with 3M DC600A	**TC-MC6000**
MC6000HG Compatible with 3M DC6000A/DC600XTD but built for 33% longer operating life	**TC-MC6000HG**

CPU Superbase
This unique stand vertically positions CPU next to the desk at an elevation of 9″ for easy access disk drives. A built-in storage unit below is ideal for hiding a surge suppressor or excess cables. Holds CPUs 3¾″ to 6¾″ wide via adjustable support clamps. Constructed of beige high impact styrene. DF-665 . . . . $\$54^{95}$



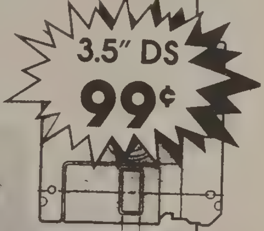
CURTIS
"Touch Me First" Static Mat
Dissipates potentially dangerous static discharge, 18″ x 23″, ground line included, lifetime warranty. AS-SM2 . . . . $\$39^{95}$

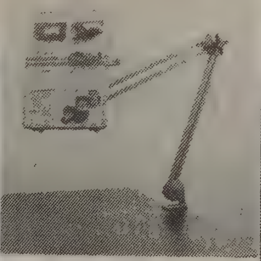


Presstex Binders
Easy to clean Presstex binders last 10 times longer than traditional products. Have 6″ capacity with convenient top and bottom leading. All binders are sold in boxes of 10 units.

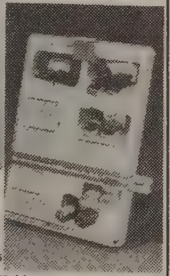
Deluxe 3½″ Diskette File
The 3½″ version of the Deluxe Disk File has ten dividers and stores 50 diskettes in a double row filing system. DS-SS50 . . . . . $\$10^{95}$

Dial 'N File 20 for 3½″ Diskettes
This unique new Dial 'N File 20 storage case holds 20 3½″ diskettes. With a turn of the dial each diskette rises individually and remains up until the dial is turned again, making diskette selection or viewing easier than ever before. DS-104106 . . . . $\$19^{95}$



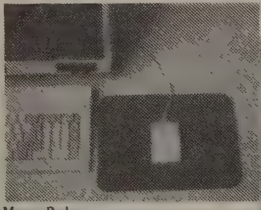


Adjustable Copyholder
Fully adjustable copyholder with flexible arm offers see-through line guide with three pitch settings and a non-magnetic clip to hold papers. The sturdy metal unit clamps to most desktops. DF-DT32A . . . . $\$36^{95}$

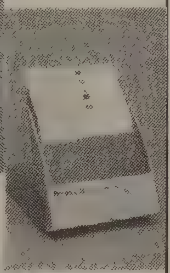


Desktop Copy Holder
This desktop copy holder has a see-through detachable line guide and a non-magnetic clip to hold papers. DF-DT31A . . . . $\$14^{95}$

Tilt 'N Turn CRT Stand
Fits large CRTs with feet separation up to 12″ x 12″. Provide 25 degree tilt and 360 degree turn. DF-900 . . . . $\$29^{95}$



Mouse Pads
(Dimensions 9″ x 12″)
Gray
DF-MM912-GR . . . . $\$8^{95}$
Blue
DF-MM912-DL . . . . $\$8^{95}$



PerfectData Dial 'N Files
Dial 'N File 10 for 5¼″ Diskettes
The ultimate library case, the Dial 'N File is designed to provide you easy viewing of diskettes. A turn of the dial lifts up to eleven 5¼″ diskettes so the user can see the labels without having to touch the diskettes. DS-103607 . . . . $\$6^{95}$

Freelance menu, so you may want to select and recolor some slides to get the appropriate colors with your plotter.

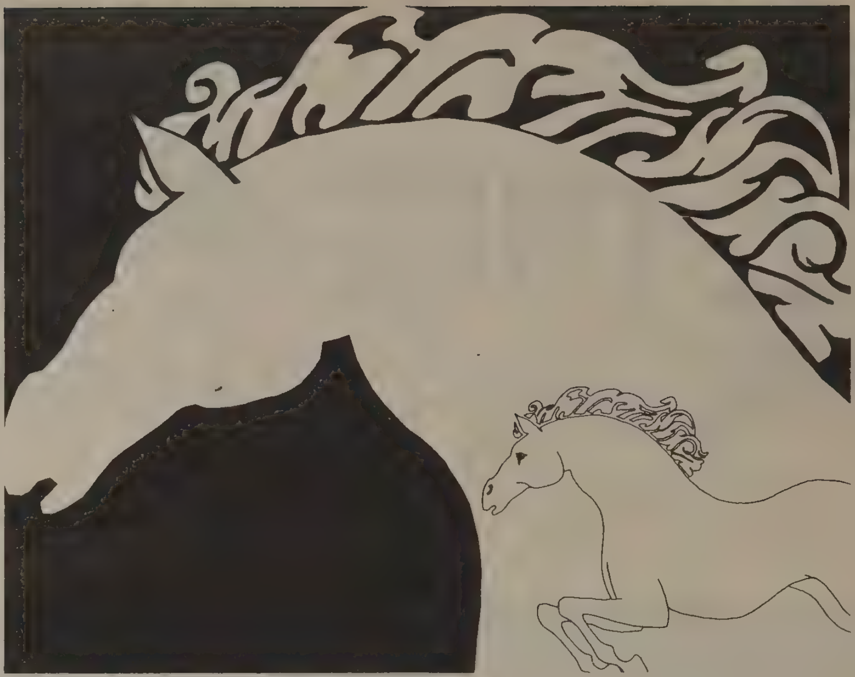
Picture Pak

MGI currently produces three separate sets of library images. At $150 per set, they are somewhat more expensive than the *Bitfolio* images. The three sets are *Executive & Management, Finance & Administration*, and *Sales & Marketing*.

The documentation contains an abominable copyright notice which says that you must include a notice in each presentation that the slides were produced by MGI graphics. MGI has since told me that they have changed their policy and that a user does *not* have to include that copyright notice in each slide, but make sure you personally check before you create any liability for yourself or your organization by using the MGI slides.

We received the *Executive & Management* set for testing. It contained about 70 files. Half of those files contained 12 icon type images similar to the actual *Freelance* libraries.

The *Executive & Management* module had six files which were nothing but 12 words in different typefaces. I found this less than useful, and I felt some resentment for finding such things in the file set, considering the cost of the set and the need for additional images; words, after all, can be created using the many fonts already provided by *Freelance*.



Bitfolio offers images optimized for plotter or matrix printer output.

The quality of the images was good. They were optimized for a HP LJ device and needed some work to be adequately produced on a pen plotter, but the adjustments required nothing out of the ordinary and was accomplished with no unusual problems. The *Picture Pak* images are not of the high graphic quality of the *Bitfolio* images, but there was no duplication between the two sets; both, therefore, would be useful additions to your library.

Macrosoft

The *Macrosoft* library contains a smaller set of images, no text, which have been produced by an artist working within *Freelance*. They are the least expensive of the library sets, and contain fewer images than either *Bitfolio* or *MGI*. If you wish to check out this library, you can download a sample set from the LOTUSGRAPHICS forum on CompuServe.

Summary

All of these libraries contain acceptable images to increase the flexibility and value of the *Freelance Plus* program. If you, as I, produce slides for presentations and are searching desperately for ways to make those presentations better, more visually attractive, and generally keep your audiences attention, any of the libraries will be a welcome addition to the program. If you can afford it, you should purchase all of them. ☐

Copyright © 1988 by Woody Liswood. All rights reserved.

Resources:

Bitfolio
Coddbarrett Associates, Inc.
(800) 447-3735

Macrosoft
21 Jaspar Rd.
Beaconsfeild, Montreal, QC H9W 5RY

Picture Paks
Marketing Graphics Incorporated
401 East Main Street
Richmond, VA 23219
(804) 788 - 8844

Freelance Maps
Lotus Development Corporation
55 Cambridge Parkway
Cambridge, MA 02142

Factory Direct Prices . .
Leasing Now Available. . .

ATTENTION: END USERS
We will meet or beat any price on any computer system in this magazine.

XT Turbo
$495
- Mono Monitor
- 10 MHz Motherboard
- 256K on Board/8 slots (exp to 640K)
- 360K Floppy w/Card
- 150 Watt Power Supply
- Parallel port
- AT Style Case & Keyboard
- Video Graphics Card
- 1 Yr. Warranty (Parts & labor)

Color: $650 EGA: $935

386 AT TURBO
MONO MONITOR
16 MHz 386 SYSTEM BOARD
1 MB RAM MEMORY
200 WATT POWER SUPPLY
1.2 MB FLOPPY DRIVE
ENHANCED KEYBOARD (101 KEYS)
VIDEO CARD W/ PRINTER PORT
HARD AND FLOPPY CONTROLLER CARD
1 YEAR WARRANTY PARTS & LABOR
$2100
Color: $2275 EGA: $2550

286 AT TURBO
- Mono Monitor
- AT Motherboard (0 wait state-512K)
- Floppy Drive
- 200 Watt Power Supply
- AT Style Keyboard
- Hard Drive & Floppy Controller Card
- Video Graphics Card
- 1 Year Warranty on Parts & Labor

$950
Color: $1110 EGA: $1375

Laser Products • Print Ribbons • Computer Paper • Labels • Business Forms • Checks • Letterhead

We Are Now Stocking
DATA CARTRIDGES
For Most Tape Back Up Units
LASER TONER CARTRIDGES - $69

Computer Supplies Unlimited
Serving You Since 1983
(714) 841-3393

17931 Beach Blvd. Ste. 110
Huntington Beach, CA 92647
Near NW Corner Beach & Talbert
Look for our sign: COMPUTERS

Hours: M-F 8AM-6PM
SAT 9AM-5PM
OTHER HOURS BY APPOINTMENT

STOP BY OUR STORE OR CALL FOR UPS DELIVERY.
UPS IS OVERNIGHT IN O.C. AREA.
Prices and availability subject to change without notice.
Prices reflect 3% cash discount.

AMERICAN EXPRESS master charge VISA

WE DON'T COMPROMISE! NEITHER SHOULD YOU!

All systems priced here are complete and come with one year parts and labor warranty. In addition to that, since we are so confident in our computers, we also offer 6 months of non-proprietory DOS software compatibility guarantee!

NO MATTER WHERE YOU BUY

PRICE, QUALITY AND SERVICE MUST BE IN BALANCE!

• *NEC Multisync II*	*$595*
• *Genoa Super EGA & Software*	*$185*
• *TAXAN EGA monitor*	*$400*
• *PC-Mouse/w PC-paint*	*$ 95*
• *20 MB Seagate (38 ms)*	*$249*
• *20 MB Seagate (68 ms)*	*$220*
• *40 MB Seagate (ST-251-2)*	*$340*
• *Western Digital*	
HDD/FDD controller (AT)	*$110*
HDD controller (XT)	*$ 65*

BCC BINARY COMPUTER CORPORATION

15179 Springdale Street
Huntington Beach, CA 92649
(714) 894-6827

- 4 LAYER MOTHER BOARD
- 200 W POWER SUPPLY
- 8 EXPANSION SLOTS & 80287 SOCKET
- CLOCK CALENDER (W/ BATTERY BACK-UP)
- RESET & TURBO SWITCH INDICATORS
- AT ENHANCED KEYBOARD
- SERIAL (MOUSE), PARALLEL(PRINTER), AND GAME PORTS.
- ONE YEAR PARTS AND LABOR WARRANTY

Mini - 286

10MHz
640 KB Ram
360KB FD
1.2MB FD
20MB
SEAGATE H.D.
MONOCHROME MONITOR
GRAPHIC CARD

$ 1,350

AT - 286

10MHz
640 KB Ram
360KB FD
1.2MB FD
20MB
SEAGATE H.D.
EGA CARD
EGA-MONITOR

$ 1,799

12MHz
1MBRam
360KB FD
1.44MB FD
Fast 40MB
SEAGATE H.D.
EGA CARD
EGA MONITOR

$ 2,149

386 CPU (32 bits)

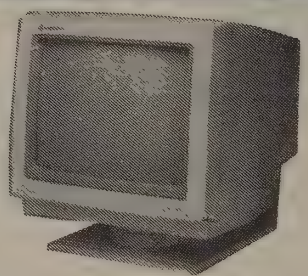
20 MHz - 386
Real 32 bit CPU & Memory access.
Norton Rating SI=23.
Math coprocessor socket on board.
The optimized CAD/CAM, LAN
File server and XENIX machine.

CALL

New Location Opening Sale

Your Computer Deserves A Great Monitor

SAMSUNG Monitors



MD-1252G (MG2525)

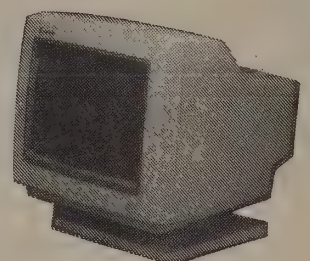
* 12" TTL Amber
* Tilt & Swivel Base

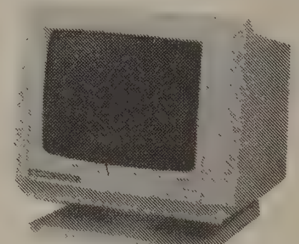
$67 Only

CD-1464W (CW4644)

* 14" RGB Color
* 0.41 mm Stripe Pitch
* Tilt & Swivel Base

$209 Only





CD-1453M1 (CM4531)

* 14" EGA/CGA Color
* 0.31 mm Dot Pitch
* Tilt & Swivel Base

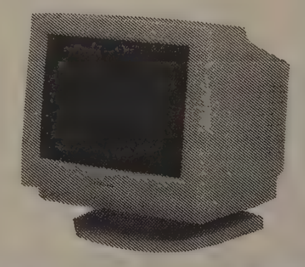
$319 Only

NEW!

MZ 4571

* 14" TTL Paper White
* Flat Screen
* MDA/CGA Dual Modes
* Tilt & Swivel Base

$99 Only



Amax is the exclusive Samsung Monitor distributor to serve you in the South-West US. Please call for Multisync, VGA, flat screen and paper white monitors.

CASES & POWER SUPPLIES

AT style turbo XT case	$36
Compact size AT case	$50
150W switching power supply	$36
200W switching power supply (XT size)	$55
Tower Case with 275W power supply	$270

GRAPHICS CARDS

Monochrome graphics with printer port and color graphics emulation	$47
Color graphics	$39
ATI EGA Wonder	$185

PERIPHERAL CARDS

Floppy disk drive controller (XT)	$17
High capacity floppy drive controller (XT)	$39
Multi I/O (Disk I/O, XT)	$52
I/O plus (XT)	$39
AT I/O	$41
AT floppy/hard disk controller with cables	$115
PC 384KB multi function	$68
XT 2MB expanded memory	$85
AT 2MB expanded/extended memory	$98
AT 3MB Multifunction	$115

MOTHERBOARDS

4.77MHZ/8MHZ turbo XT board	$75
4.77MHZ/10 MHZ Turbo XT board	$79
8MHZ/12MHZ AT board	$275

KEYBOARDS

AT style with "click" (84 keys, XT/AT)	$46
Enhanced AT style with "click" (101 keys, XT/AT)	$52

BASIC SYSTEMS

Turbo XT with 4.77MHZ/10MHZ motherboard, 150W power supply and AT style case	$160
Turbo AT with 8MHZ/12MHZ motherboard, 200W power supply and compact size	$405

FLOPPY AND HARD DISK DRIVES

Fujitsu 5.25" 360KB	$65
TEAC 5.25" 360 KB	$75
TEAC 5.25" 1.2 MB	$87
TOSHIBA 3.5" 720KB	$95
TOSHIBA 3.5" 1.44MB	$110
SEAGATE 20MB subsystem	$280
SEAGATE 30MB subsystem	$300

MODEMS

EVEREX 300/1200 baud internal	$79
EVEREX 300/1200/2400 baud internal	$175
SAMSUNG 300/1200 baud external	$79

COMPLETE COMPUTER SYSTEMS

System 88 (10MHZ)	$740
System 286 (12MHZ)	$1080
System 386 (16MHZ)	$2310

amax

AMAX APPLIED TECHNOLOGY, INC.
3001-A W. Mission Rd., Alhambra, CA 91803
(818) 300-8828 **FAX: (818) 282-9992**
Technical Support/RMA (818) 300-9152

Business Hours: Monday to Friday: 9 a.m. — 6:00 p.m., Saturday: 11 a.m. — 4 p.m. • Visa/Master Card Welcome.
Amax distributes only quality proven products. Most products shipped within 24 hours. Dealers welcome. Factory direct pricing.

MAC @ WORK

IN THIS ISSUE

51 PageMaker 3.0 *By Helmi Kobler*
The new version of the perennial favorite offers improved text and graphics handling capabilities, and is the package of choice for small, design-intensive projects.

56 Macintosh-PC Connectivity
By Robert Grant Beauchamp
Micro Planner, a project management package for Mac and PC.

60 ***NEW THIS MONTH:***
BMUG *By David Morgenstern*
Formerly known as the Berkeley Macintosh User Group, BMUG Inc. is a veritable hotbed of innovative ideas and useful information. Starting this month, BMUG's David Morgenstern offers news from the group's meetings and tips from its tech support staff.

62 HyperCard *By Birrell Walsh*
HyperCard in the academic environment.

PageMaker 3.0

The new version offers some great enhancements—and a few significant omissions.

By Helmi Kobler

PageMaker 3.0, the latest update to Aldus' tried-and-true page makeup program, has a lot going for it. PageMaker is already the leader in unit sales of Macintosh page makeup packages, and if you buy version 3.0, you won't have to worry about being left out in the cold after your purchase. Besides the nationwide network of authorized "Aldus Classroom Training Centers," you will find more community colleges, consultants, video tutorials, books and magazines offering help in PageMaker than for any other package.

Strong support like that is a big issue to a lot of users; PageMaker 3.0's facility for creating longer documents, spot color and other enhancements will make it even more attractive. Unfortunately for Aldus, though, PageMaker's improvements probably won't be enough to motivate ReadySetGo and especially Quark XPress users to make a switch. And newcomers to desktop publishing will find that those packages are still better suited for certain projects. There are enough loose ends in this PageMaker to allow the competition to grow, and as a result we'll probably see a three-player market from now on in Mac-based desktop publishing.

Still, ReadySetGo and XPress will have a tougher time competing. Both have lured desktop publishers because they were better-suited than PageMaker for creating long documents, but that's less significant now that PageMaker has style sheets and can automatically flow text through your entire document.

Text-Handling Improvements

PageMaker's style sheets are great time-savers for formatting text. They work a lot like the style sheets in Ventura Publisher, Microsoft Word or ReadySetGo; you assign a collection of formatting instructions—typeface, point size, tab settings, leading and color, for instance—to a "style" in PageMaker's Style Palette. Apply that style to a paragraph in your document, and it takes on the attributes you defined in the style.

Not only are you saved from making several menu selections to format the text, but using a style sheet lets you make global formatting changes in your document. If you want to change a newsletter's headlines from Helvetica to Futura Bold, just edit your Headlines style and PageMaker applies the change to all text already formatted with the Headlines style.

ReadySetGo users have this convenience, but PageMaker's style sheets are handier. If you use Microsoft Word, for instance, PageMaker will read the styles you've already created in your Word document and add them to its own style palette. And it keeps your publication's styles intact if you later export a story back to Word for editing.

Even better, PageMaker lets you "tag" text from other programs so that it's formatted by your publication's styles as it's imported. If you are using MacWrite, for instance, you could type the name of a PageMaker style at the start of a paragraph and when you import that MacWrite file, PageMaker reads those "tags" and formats your text with the styles you specified. You or your writers can tag the body text, headlines, subheads and any other distinct text elements of a story on the spot, saving the person who designs the publication from a lot of tedious formatting work.

Autoflow is another of PageMaker's new anti-tedium features. Choose "Autoflow" from the menu, and PageMaker flows imported text from column to column and page to page, creating enough pages to fit your whole story. The pages are formatted according to the margins and column guides you've set up in your publication's default pages, and PageMaker actually shows text flow through each page so you can follow it page by page and interrupt anywhere you like. If you don't want to give PageMaker control of placing your stories, though, you can still do it the "old-fashioned" way: place each column by hand.

Being able to autoflow text won't be such a boon if you produce short pieces like ads, brochures and newsletters that use a freer, more varied design format. But for reports, books and other publications where all the pages share a common format (two columns with a header and footer on every page, for instance), autoflowing text saves from manually placing each column of each page.

But PageMaker could still use more flexibility for placing long documents. It doesn't let you create chapters in a document, so you if you want to change a header to indicate a new chapter you will have to start a new PageMaker document.

PageMaker also won't show you where columns are linked to, which ReadySetGo or XPress will. If you're designing a newspaper or other publication where a story jumps from column 1 on page 1 to columns 2 and 3 on page 7 and finally ends in column 4 on page 17, you'll have a hard time keeping track of its path, since PageMaker doesn't display arrows or origin-and-continuation marks in columns. If you're specifically planning to produce long documents, I think XPress and, to some extent, ReadySetGo, are still more capable tools.

> ***Quark Xpress and ReadySetGo have lured desktop publishers because they were better-suited than PageMaker for creating long documents, but that's less significant now that PageMaker has style sheets and can automatically flow text through your entire document.***

MicroCom Systems

OUTSTANDING SOFTWARE

For IBM PC's and Compatibles

$\$3^{50}$ PER DISK SMALL QUANTITIES

$\$3^{00}$ PER DISK FOR TEN OR MORE

$1 OFF 5 DISKS OR MORE WITH THIS COUPON

☐ **BUSINESS 1**—EZ-Forms business form generation
☐ **CAD 1**—Altamira, 4 color object oriented drawing prog.★
☐ **COMM 3**—Compression and archival utilities
5 **COMM 4a,b,c,d,e**—(5 disks) RBBS Bulletin Board System 14.1D.
2 **DATABASE 1a,b**—(2 disks) The File Express menu driven general purpose database.
☐ **DATABASE 3**—The pBASE relational database.
☐ **EDUCATION 1**—Interactive DOS tutorial for new PC users. Makes learning DOS painless
2 **FINANCE 1a,b**—(2 disks) PC Accountant 2.0 personal bookkeepping/finance management
☐ **GAMES 1**—3-D PacMan, Kong, SpaceWar, JanitJoe.★
☐ **GAMES 2**—Qubert, Pango, Centipede, Monopoly.★
☐ **GAMES 3**—Blackjack, Arm Chair QB, and Empire.
☐ **GAMES 4**—Castle, StarTrek, and the original Adventure.
☐ **GAMES 5**—The Hack adventure game from the universities. Like Rogue, only more complex.
☐ **GAMES 6**—Pinball, Othello, Sopwith (fly one).★
2 **INFO 1a,b**—(2 disks) Cooking recipes database with keyword/ingredient retrieval prog. Add your own recipes.
☐ **LANGUAGE 5**—Turbo Pascal interactive debugger, pop-up help, formatters, et cetera
☐ **LANGUAGE 7**—Complete Pascal interpreter, compiler, and debugger. Great for learning Pascal!
☐ **LANGUAGE 8**—Xlisp 1.7, the standard for AI langs.
☐ **MUSIC 1**—Many clever tunes, and an excellent color graphics music editor.
2 **MUSIC 2a,b**—(2 disks) PianoMan 3.0 polyphonic music recording and playback program.
☐ **ORGANIZER 1**—DeskMate, a Sidekick clone, and the Judy calendar program
☐ **ORGANIZER 3**—The PC-Outline Resident windowing outline editor/thought organizer.
☐ **PICTURES 2**—High res. digitized pictures. Graphics req'd.
☐ **PINUP 2**—Provocative high res. pinups. Graphics req'd.
☐ **PRINTER 1**—Font & sideways utils, spooler, banner mkr
☐ **UTILITIES 1**—A collection of invaluable DOS utilities
☐ **UTILITIES 2**—More invaluable DOS utilities. Too many to list here!
☐ **UTILITIES 3**—Complete set of debugging and diagnostic utilities

NEW RELEASES/UPDATES

2 **CAD 2a,b**—(2 disks) Advanced 2D/3D drafting program. 640k.★
☐ **CAD 3**—The PC-Flow, flowchart creation program.★
2 **COMM 1a,b**—(2 disks) Version 2.4 of the ever-popular Qmodem.
2 **COMM 2a,b**—(2 disks) Procomm 2.42, an excellent modem program with terminal emulation.

☐ **EDUCATION 2**—Learn the Presidents, States (and capitals) and the periodic table.★
☐ **EDUCATION 5**—Learn Origami, the Japanese art of paper folding, with step by step animated instructions.★
☐ **EDUCATION 7**—Learn Basic with this interactive Basic tutorial.
2 **FINANCES 3a,b**—(2 disks) Express Calc 3.12, a powerful spreadsheet program.
☐ **GAMES 8**—The Striker helicopter attack game, and Risk, the game of world domination.★
☐ **GAMES 9**—EGARisk, world domination in very high res. EGA required.
☐ **GAMES 10**—Solitaire, Golfing, and Sailing in the Bermuda triangle.★
☐ **GAMES 12**—Chess, Backgammon, and Wheel of Fortune. Graphics not required.
☐ **GRAPHICS 1**—Record and play back screen images! Excellent for demo creation, training, etc.★
☐ **HUMOR 1**—Practical, impractical & other jokes.
2 **INFO 2a,b**—(2 disks) Zip-Phone, national areacode/prefix to zip-code cross ref. A must for businesses.
☐ **LANGUAGE 1**—PDProlog 1.91a, an advanced language for artificial intelligence applications.
2 **LANGUAGE 3a,b**—(2 disks) The A86 2.18 macro assembler and debugger. A complete assembly development system.
☐ **LANGUAGE 10**—Augusta, a subset of the Department of Defenses' new programming language ADA.
2 **LANGUAGE 11a,b**—(2 disks) Forth-83 2.1 4th generation programming language.
☐ **SHELL 4**—Automenu customizable menu facility, and the HDM II 4.04 hard disk menuing system.
☐ **UTILITIES 5**—Utilities for formatting, parking, and optimizing hard disk drives.
☐ **UTILITIES 6**—Advanced utilitiess including Dpath, Esc, Hotdos, Pushdir and Popdir. Resident program utilities and more.
☐ **UTILITIES 7**—More Advanced utilities including MasterKey (undeletes files from hard disks), Killdir.
2 **WORD 1a,b**—(2 disks) PC Write 2.71, a powerful word processing system, with built in spell checker.

★Disks so marked require color graphics.

Cost of Disks ______
CA Res Sales Tax ______
Ship/Handling $1.00
Total Enclosed ______

MicroCom Systems
3673 Enochs Street, Santa Clara, CA 95051
(408) 737-9000
M-F 7 am-9 pm, Sat-Sun 8 am-5 pm

MT-8/88

SATURDAY
JULY 2, 1988

COMPUTER BARGAIN SHOW

ANAHEIM
Computer Swap

EVERY ITEM ON DISPLAY IS AVAILABLE FOR IMMEDIATE PURCHASE AT BARGAIN PRICES

Anaheim
Convention Center
ANAHEIM, CA
800 West Katella Avenue

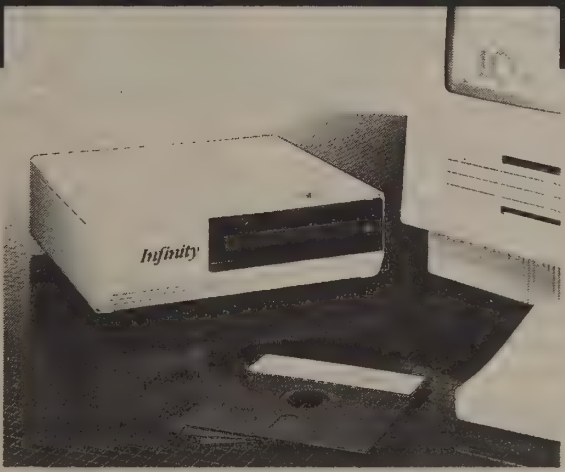
10 A.M. to 5 P.M.
Admission $5 Children Under 12 FREE For Info. Call in CA 800-433-7469

A MICROSHOWS PRODUCTION

WHAT PERFORMS LIKE A HARD DISK ?

NEVER RUNS OUT OF STORAGE

READS IBM FILES ON YOUR MacINTOSH ??



Introducing Infinity™ Drive by Peripheral Land *---- the SCSI 10MB removable disk system that will change the way you think about disk drives.*

Now you can end the limitations of standard hard disk capacities and their lack of transportable data. ***Infinity™*** *not only performs like a hard disk drive (65 millisecond access time) but it provides unlimited storage capacity with removable 10MB diskettes.*

Run out of room? Just insert another inexpensive diskette. Your storage capacity is infinite. And the cost is amazingly low: Only $18 for a 10 megabyte diskette. That's $1.80 per megabyte!

Communications bridge between your Macintosh and IBM AT and XT computers.

The ***Infinity™*** *System reads and transports IBM MS-DOS files from 1.2M and 360K AT and XT diskettes; it lets you display, edit and print IBM files on your Macintosh. That's flexibility!*

Each ***Infinity™*** *Drive comes with LaserSpeed™ a LaserWriter spooler by ThinK Technologies, BackPrint™ an ImageWriter spooler by Cortland Computer and PLI's advanced backup utility with image, file, folder, volume and incremental capabilities.*

Infinity™ *is compatible with Apple's complete line of Macintosh computers.*

Stop by your nearest Peripheral Land dealer and test drive an ***Infinity™*** *Drive today and see the difference between standard disk drives and* ***Infinity's*** *infinite capacity. Or call us for information and the name of your nearest Peripheral Land dealer.*

Peripheral Land, Inc.
47800 Westinghouse Drive, Fremont, CA 94538
Telephone (415) 657-2211 • Telex 650305-1733MCI • FAX (415) 683-9713

Infinity is a trademark of Peripheral Land Inc. LaserSpeed is a trademark of ThinK Technologies. BackPrint is a trademark of Cortland Computers. Macintosh, ImageWriter and LaserWriter are trademarks of Apple Computer. IBM, AT, and XT are trademarks of International Business Machines. ©PLI 1988

> ***PageMaker can't be beaten for creating short, design-intensive pieces, and it can handle an occasional long document without too much of a hassle.***

PageMaker is flexible enough to let a freelancer create a variety of projects, from ads and eight-page newsletters to reports over 50 pages long. You'll have to put up with its slight clumsiness when you do take on a large publication, but if that kind of project doesn't make up the majority of your work, then you'll appreciate PageMaker's intuitive nature that lets you get right down to creative design without worrying about the picture and text frames or design grids of XPress and ReadySetGo. PageMaker can't be beaten for creating short, design-intensive pieces, and it can still handle an occasional long document without too much of a hassle.

Graphics Handling

On the graphics side of things, you'll find several enhancements to this new version. For one thing, you don't have to look at your electronic page in only black and white anymore. If you've got a color Mac II system, you can assign glorious color to text, graphics created in PageMaker and even a page's background to simulate colored paper you may print on.

You create your colors by setting percentages in three color models: Red, Green, Blue; Cyan, Magenta, Yellow, Black; or Hue, Lightness, Saturation. When you print your document, PageMaker can create spot color separations with registration marks for each color you've used.

Whether PageMaker's spot color separations are handy depends on what kind of color you're working with. Most spot color, in my experience, is used for highlighting thin border lines and small blocks of text; your printer will probably let you color tissue paper to indicate colored areas instead of creating and pasting up separations. If you do need separations, though, you'll be glad PageMaker can now do them.

It's too bad, though, that Aldus didn't include Pantone's colors in PageMaker's color palette. Pantone's colors are the most popular spot colors used in print shops, but you'll have to go through the hassle of figuring out a Pantone color's equivalent in PageMaker's RGB, CMYB or HLS models to get an accurate color on your screen.

I had a few other disappointments with PageMaker's color features. Sometimes it gets its colors mixed up; when you set the color of your page's background, for instance, PageMaker occasionally displays a different shade from the one you asked for. Or sometimes it colors only a portion of your page. You can correct both quirks by reselecting the color, but that's inconvenient anyway. I was also disappointed that Aldus didn't fine tune PageMaker to work better with FreeHand, its PostScript drawing program. FreeHand graphics use PageMaker's same three color models, but you can only import them as black and white Encapsulated PostScript Files. If PageMaker could import FreeHand documents with their color intact, Aldus would have a dynamic duo.

If you work with grey scale images, you'll probably welcome PageMaker's new image control feature. Not only can you alter the contrast and lightness of imported TIFF files (and bit-mapped graphics), but, more importantly, you can set the halftone screen frequency in lines per inch, as well as the screen angle. You'll appreciate having this kind of control over your halftones; lighten a photograph so that overlapping text stands out. If you're printing on a Linotronic printer, you'll want to boost the TIFF image's lpi value from the default 53 lpi to over 100 lpi.

Make sure PageMaker accepts TIFF images from your scanner, though. Ironically, there are several different versions of the "industry standard" TIFF file format, and PageMaker doesn't recognize them all. For instance, the program locked up when I tried to import TIFF images scanned with DEST's PC Scan 1000. I got around the problem by bringing the DEST-scanned files into Letraset's ImageStudio, saving them as TIFF files there, and then importing them into PageMaker. That's a hassle, though, and also an expensive solution if you don't already own ImageStudio. Aldus says an upcoming maintenance update of PageMaker will work with more scanners; meanwhile, check with Aldus about your scanner's compatibility before you buy.

PageMaker can finally wrap text around any graphics in your publication. Graphics are surrounded by a perforated rectangle called a boundary. The boundary is the graphic's text repellent, and although it always starts off as a rectangle, you can customize it to fit the contours of irregularly shaped objects like circles by placing and dragging its handles. Manually fitting a boundary around irregular graphics isn't as fast as the automatic approach used by XPress and ReadySetGo, but the whole job only takes a minute or two, and leaves you with more flexibility in deciding how text wraps are done. Since you shape the graphic's boundary and the computer doesn't, you're free to apply a little creativity by putting in interesting angles and shapes.

Conclusions

I found other small touches to appreciate in the new PageMaker. The program now has hierarchical menus, and you can select fonts, point sizes and styles from the menus instead of entering the Type Specs dialog box. PageMaker will now convert the Mac's regular quotes to typesetting quotation marks as you import a text file. There's a new online help system too, although you can probably find any information you need quickly in PageMaker's excellent User and Reference Manuals. And Aldus ships 23 pre-designed templates that you can use in your own publications, if you don't mind them having the familiar "Aldus" look.

On the other hand, Aldus missed some important stuff in this version. You can only kern by 1/48 of an em space, and leading is set in only 1/2 point increments (you can control XPress's kerning and leading to 1/100 of an em space). PageMaker doesn't support tracking; if you want to control letter spacing, you have to use an awkward percentage scheme. You can't group objects, either, and there's no Find/Replace function.

If you already use PageMaker 2.0a, you've probably learned to live with these problems. Version 3.0 is nonetheless a great improvement, and buying the $85 upgrade will only make your work easier. If you don't have a stake in PageMaker already, think carefully about the kind of design you want to do. XPress, PageMaker's serious competition, has more precise typography, will offer Pantone colors and four-color separations in the next version, and is better at creating long documents with a uniform page format despite having no style sheets (although some style sheet functions can be done with its extended Find/Replace feature).

But PageMaker is elegant when producing pieces that play on design variation. It can automatically lay out larger documents if you need it to, and it does have the best style sheet feature around, which you'll probably come to depend on in every design session. Deciding whether these talents outweigh PageMaker's tradeoffs depends entirely on the kind of publications you create. (PageMaker 3.0. Aldus Corporation, First Avenue South, Seattle, WA 98104. List price is $595.) ☐

Copyright © 1988 by Helmi Kobler. All rights reserved.

IBM • HP • SONY

QUALITY DISTRIBUTION GROUP

Celebrating 3 Years of Growth and Change to Better Serve You.

BOARDS/OPTIONS

AST • GENOA
JETWARE • MODEMS
ORCHID-Designer VGA $285
PACIFIC DATA-1MB RAM FOR HP LASERJET II $299
PARADISE TALLTREE— J Laser
WESTERN DIGITAL

CHIPS

INTEL • RAM • WEITEK

COMPUTERS

AST
286 Models 80, 90, 120, 140, 170, 386
COMPAQ 286-Model 1
386-20 Models 60, 130, 300
Portable 386-40MB or 100MB
EVEREX 386
IBM PS/2 Models 30, 50, 60, 80
NEC Multispeed EL/HD
QUALITY Premium Grade Clones
286-10/0, 640K, keyboard. $985
386-20, 2MB, keyboard . $2700
SHARP
TOSHIBA Models T1000, T1200, T3200, T5100
ZENITH Models 181, 183

FAX

BROTHER • CANON • NEC
PANASONIC • SHARP • TOSHIBA

HARD DISKS

FUJI • MAXTOR • MINISCRIBE
PLUS • SEAGATE

KEYBOARDS

HONEYWELL 84 Key, 101 Key

MICE

LOGITECH • MICROSOFT

MONITORS

NEC • SONY • THOMSON • ZENITH

SPECIALS

QD XT
- 20 MB HD • 640KB
- 360 KB Floppy
- Mono Card/Par Port
- Amber Monitor

$899

QD 286
- 10 MHz • Honeywell Keyboard • 1.2 Floppy Drive • 640KB RAM • Mono Card
- Amber Monitor

$1099

Genoa Super EGA. $189

PLOTTERS DIGITIZERS

HITACHI • HEWLETT PACKARD
HOUSTON INSTRUMENTS
KURTA • NUMONICS
ROLAND • SUMMA

SCANNERS

HEWLETT PACKARD
MICROTEK LABS
PRINCETON GRAPHICS

PRINTERS

CITIZEN
EPSON-Models FX 86E, FX286E, LQ500, LQ850, LQ1050, LQ2500
HEWLETT PACKARD
Deskjet, Laserjet II
IBM-Proprinter
OKIDATA
TOSHIBA-Models 321SL, 341SL, 351C, 351SX

SOFTWARE

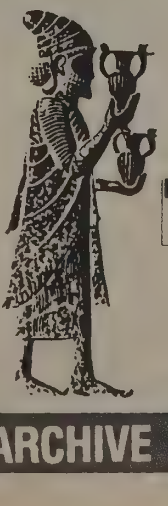
ALDUS Pagemaker
dBASE III +
IBM PC DOS 3.3/MS DOS 3.3
Lotus 1-2-3/Symphony/HAL
PC MOS/386 Single/Multi
Ventura Publisher
Wordperfect 5.0

TAPE DRIVES

ARCHIVE IRWIN
MOUNTAIN SYSGEN
WANGTECH

POLICIES:

- We accept certified checks, cashier checks, wired funds
- All orders over $500 must be paid by cashier check.
- Minimum order $100.
- Allow 1 week for personal & company checks (maximum amount $500)
- Prepaid orders get 1% discount
- Add 3% for Visa/Master Card Purchases
- Allow one week for shipping
- 15% Restocking Fee On all return merchandise
- Customer pays return merchandise shipping
- All prices subject to change without notice
- Some prices are quantity.
- Orders over $10,000/month get 1% discount
- Saturday orders get free shipping
- HP is a registered trademark of Hewlett Packard. AST is a registered trademark of AST. Compaq is a registered trademark of Compaq. IBM is a registered trademark of International Business Machines.



VISA

QUALITY DISTRIBUTION GROUP

(213) 478-9811

1-800-MICRO 86 (642-7686)
11651 W. Pico Blvd., Los Angeles, CA 90064
For Technical Services Call (213) 478-8819
QUANTITY PRICES AVAILABLE

FAX (213) 312-5065

master charge

TOSHIBA • MINISCRIBE • ZENITH • LOTUS • RAM CHIPS

COMPAQ • NEC • AST • INTEL • EPSON • EVEREX • SEAGATE

IRWIN • ARCHIVE • SUMMAGRAPHICS • KURTA •

MAC-PC CONNECTIVITY

BY ROBERT GRANT BEAUCHAMP

Micro Planner On The Mac And PC

The Four Step Path To Project Management Enlightenment: Connectivity Style

If you know your way around the office computer, you are probably familiar with word processors, databases and spreadsheets. One area that you're probably not familiar with, however, is project management. This is because, for the most part, high-end project managers for IBMs and compatibles are opaque. It can take a long time and a number of seminars to master them — a deadly enough combination to prevent most people from even starting.

On the low end, project managers are simply too limited to do much good. They can give you a good idea about the course your project should take; once the project starts, however, there's no way to modify the plan when the going gets rough and your project falls further and further behind.

The basic idea behind project managers is to take all your data and provide you with a visual representation of your project. Of course, when you combine visuals and computers you get the graphical interface. The Macintosh, then, would seem an ideal venue for project management programs. However, there's another equation: garbage in equals garbage out. If you can't get a grasp of the resources that are available to you and how those resources can be used to best effect, the Macintosh can't save you. Your charts and graphs will look nice, but they will mean nothing.

No wonder you haven't bothered.

Micro Planner

The solution, it seems, is to create a project manager that uses a graphical interface, is easy to learn, and helps you master the resources at your disposal. *Micro Planner* from Micro Planning International fits all these requirements. Until recently *Micro Planner* has only been available for the Macintosh. Now, however, Micro Planning has taken on the graphical interface for the PC: *Windows 2.0 Presentation Manager*. They have not only accomplished the rare feat of providing a *Windows* version just as good as a Macintosh one, but they also provide complete file transfer capabilities between the two environments.

Micro Planning International of San Francisco has been in the business of project management for ten years, first as consultants and then as the first producer of a project management package running on a microcomputer. Since then, Micro Planning has continued its consulting work, and numbers among its clients Apple, IBM, DEC and other corporate giants both in and out of the high-tech industry.

It doesn't really matter how much money you have wrapped up in your project, there is one aspect of project management that is true for everyone. The farther your project slips behind schedule, the more money it costs you. According to Tim Breen, CEO of Micro Planning, the goal of a project manager is to turn you from a reactor to a manager. From someone who is always running around putting out forest fires to one who can not only bring projects in on time and on budget but also pass that knowledge on to less experienced managers.

The Four-Step Plan To Project Nirvana

Breen outlines four necessary steps to becoming a project planning guru. In a sort of four-part path to wisdom, *Micro Planner*'s powerful features help you along the way.

The first step, obviously, is to learn how to use the software. *Micro Planner*'s use of the graphical interface in both the Macintosh and the *Windows* environment is extremely helpful here. In this first step, it is also necessary to know the process involved in completing your project. Your goal is to create a logic chart.

A logic chart acts as a flow chart, showing you the course of the tasks involved in your project and how they connect to the other tasks. Creating the logic chart forces you to think through a process and detail the amount of time each task in the project takes, when in the course of the project that particular task needs to be done, and what resources are required to complete that task on time.

When you combine visuals and computers you get the graphical interface. The Macintosh, then, would seem an ideal venue for project management programs. However, there's another equation: garbage in equals garbage out.

All this information is put on the chart through the use of boxes and lines. What makes *Micro Planner* different from most project managers is that it helps you sort out your chart so it isn't a mass of overlapping lines, creating something reminiscent of the kid's maze in the Sunday comics. In other words, you don't have to know how to map, just how to organize your project.

Each box is a field where the vital information of time and resources is stored. Because they are fields much like database fields or spreadsheet cells, *Micro Planner* files are easily imported into your favorite database or spreadsheet.

Once this is done, you can create your critical path bar chart. This bar chart breaks down each task into the number of days it takes to complete the task. It places the task in relation to the others according to when it needs to be done. "Critical"

IBM SOFTWARE FOR ONLY $3.00

Thousands of IBM/Compatible Public Domain & Shareware Programs!
Our Library is Updated **Daily!** Order Our **FREE** Software Catalog Today!
32 Pages Packed with Games, Utilities, Spreadsheets, Graphics
and **much, much more!**

MOST ORDERS SHIPPED WITHIN 24 HOURS!!!

CALL NOW! NATIONAL: (800) 245-BYTE (TOLL- FREE)
CALIFORNIA: (818) 781-9975

GAMES

PLAY GRAPHIC GAMES ON MONO! (21) Three programs that allow you to play games requiring CGA without CGA!

SLEUTH V4.1 (157) A classic "who-dun-it?"

MONOPOLY (18) Color & Mono versions on disk.

TRIVIA MACHINE (63-64) Excellent trivia fun!

SUPERNOVA (455) Exciting text adventure game.

3-D CHESS (285) Incredible chess game! Requires CGA.

ARCADE GAMES-1 (56) Paratrooper, Breakout, Pac-Gal, Pinball...! Requires CGA & BASIC.

ASSORTED CARD GAMES (267) Bridge, Cribbage, Poker, Lowball, Crazy 8, Holdem.

SLOT MACHINE POKER & BLACK JACK TUTOR (361) Two fun & fast action games. Requires CGA.

DIGITAL LEAGUE BASEBALL V1.1 (394) Pick teams, select players! Requires CGA.

MINIATURE GOLF V3.0 (511) Play the POKO Memorial. 18 holes. Requires CGA.

LOTTO GENERATOR V1.5 (358) Includes CA lotto numbers through 4/13/88!

LOTTO PICKER (673) Input and analyze numbers. Incl. CA lotto numbers to 4/13/88.

EDUCATION

TEACH-A-TOT (342) Teaches preschoolers numbers, letters, & shapes. Requires BASIC and CGA.

PC FASTTYPE V3.1 (23) Excellent menudriven typing tutor. Requires CGA.

ABC FUN KEYS (417) A musical learning game for ages 2-5. Requires CGA.

WHIZQUIZ (542) 10 levels to improve your childs math skills. Requires CGA.

ENGLISH TEACHER (32-33-34-35) Vocabulary & Spelling flash cards with 7,500 word builder.

WORLD MAP V2.6 & GEO-CHRON V1.0 (225) The world and world time at your fingertips. Requires CGA.

STARFINDER ON DISPLAY (91) Turn your monitor into a window to the stars!

BEGINNING FRENCH TEACHER (212) Teaches vocabulary, phrases, verbs, nouns, etc.

BEGINNING SPANISH TEACHER (180) Teaches vocabulary, phrases, verbs, nouns, etc.

VIDEO CHEMISTRY (44) Create molecules by joining different atoms. Requires CGA.

MUSIC

PIANOMAN V3.02 (126-127) Play, record and edit your own music. One of the best!

TUNE TRIVIA (166) "Name That Tune" for 1 to 6 players. 200 songs and questions!

WORD PROCESSING

PC-WRITE V2.71 (135-136) Extremely fast with professional features. Spell checker included. Requires 320K.

PC-TYPE+ (269-270-271) Easy to learn and easy-to-use. Includes huge spell checker.

MIND READER V2.0 (676) A.I. program learns as you use it.

CITY DESK V6.0 (293) A simple desktop publisher.

PC-OUTLINE V3.34 (501) Organizer, notepad and word processor!

SPREADSHEETS

EXPRESSCALC V3.12 (132-133) Easy-to-use program comes with manual and tutorial!

AS EASY AS v3.0 (164) Looks and acts like Lotus 1-2-3. Requires 320K.

PC-CALC+ (490-491-492) Powerful program with graphics, split screens and more. Requires 2 disk drives.

GOAL SEEKER (683) Financial program to answer "What if?" questions. Requires Lotus, SuperCalc 4, VP-Planner or Multiplan.

ACCOUNTING AND FINANCE

FAST BUCKS V.3.18 (311) Home budgeting and expense tracking supports 25 checking, savings and charge accounts.

ULTIMATE CHECKBOOK BALANCER (660) A perfect way to keep your home checkbook balanced.

PC-PAYROLL (507) Handles 200 employees. Automatically computes Federal, State, FICA, etc.

MR. BILL (421-422) Automatically forwards old balances and rebills the next month. Requires 2 disk drives.

DATABASE PROGRAMS

PC-FILE+ V2.0 (493-494-495) 30 New & enhanced features! Requires 384K.

FILE EXPRESS V4.14 (11-12) Excellent database with powerful sort, report and labelmaking features!

WAMPUM V3.1 (254-255) DBase III clone & DBase III file compatible.

MASS APPEAL V3.0 (519) General purpose mailing list program. Requires 320K.

DOCTOR DATA LABEL V1.21 (315) Extremely powerful mailing list manager. Requires 384K & 2 disk drives.

NAME PAL V1.2 (580) Make your own "Little Black Book", labels, rolodex cards, etc.

GRAPHICS

DANCAD3D V2.0A (294-295) Very extensive 3D wire frame and high resolution line drawing & graphing program. Requires 512K, CGA and a hard disk.

FLOW-DRAW V1.0 (593-594) Draw flowcharts and organizational charts. Requires 320K, CGA and Epson Compatible printer.

FINGER PAINT V1.0 (329) Similar to PC-Paint. Many built-in patterns. CGA or HGC.

EASY DRAW V3.2 (436) Use with keyboard or mouse. Requires 384K, CGA and Epson Compatible printer.

PRINTMASTER GRAPHICS LIBRARY (355-356-357) Three disk set containing over 180 great graphics for PrintMaster Plus.

COMMUNICATIONS

PROCOMM PLUS TD V1.1 (536) An extremely powerful yet easy-to-use modem program!

PC-TALK III (543) From Buttonware. Very powerful with good docs.

Q-MODEM 3.1A (185-186) Very popular general purpose communications program.

SECURITY/HACKING

UNPROTECT-1 (110) Back-up protected software.

UNPROTECT-2 (237) More ways to unprotect software!

UNPROTECT-3 (396) Back-up more of your protected software!

PROTECT AGAINST TROJAN HORSES & VIRUS PROGRAMS! (568) Disk full of protection programs for your system! A must!

DOS

HOW TO GET STARTED USING MOST SOFTWARE (25) Make this disk your first buy if you're new to the world of PD & Shareware!

TUTOR V4.1 (99) Nine tutorials covering DOS and computer basics!

PC-DOS HELP! (112) On-line help capability for DOS.

DOS NOVICE UTILITIES (663) Three extremely easy-to-use DOS utilities specifically written for the novice DOS user.

MISCELLANEOUS

ASTROLOGY V9.4 (1) An excellent chart calculation program.

BIORYTHMS (424) Prints chart and compares two people for compatibility.

HANDWRITING ANALYST V1.0 (659) Gives a report about a person based on his signature.

EDNA'S COOKBOOK (539) Record, file, list and print your favorite recipes.

RECIPES (420) Contains over 125 high quality recipes. Prints out shopping list.

FORM GENERATOR V2.72 (226) Produce professional looking forms!

BANNERIFIC (347) Make different size banners. Easy-to-use.

PC WATCHES - EGA DEMO (634) Three on-screen demo watches to watch! Requires EGA.

HOMEBASE V2.5 (680-681-682) A complete, useful and extremely powerful desktop program. Requires 2 disk drives.

JUDY V1.50 (607) Memory resident desktop organizer and calendar.

FREEWILL (100) Do-it-yourself will maker! Don't leave home without one!

FANCY LABEL V1.0 (652) Mix and match different typestyles on each label. Requires Epson compatible.

HOME REAL ESTATE ANALYST (45) Compares and analyzes differences between renting and owning!

BOWLING LEAGUE SECRETARY V1.0 (451) Handles up to 32 teams! Online help screens, too.

UTILITIES

OVERVIEW V1.5 & QUICK DIRECTORY V1.3 (503) Comprehensive DOS shell with on-line help & quick directory program.

HARD DISK UTILITIES - 1 (101) Excellent selection of fixed disk utilities.

HARD DISK UTILITIES - 2 (210) More great hard disk utilities including SST disk optimizer!

FLASHBAK V1.56D & ARCHIVE V3.0A (284) Two programs for fast floppy backup of hard disk systems!

POWERMENU 3.1 (444) Possibly the best available menu program on the market!

MASTER KEY (706) Like NORTON's. Retrieve deleted files!

RAM TEST V2.03 (466) Tests basic, extended and expanded memory and reports any bad chips in plain english. Great and easy!

DISK COMMANDO V2.0 (310) An excellent NORTON clone!

DESK COMMANDO V1.32 (699) Better than Sidekick. Many features.

"DIR" UTILITIES (703) Never use DOS' "dir" command again!

BEST BITS AND BYTES

P.O. BOX 8245 • VAN NUYS, CA 91409

TERMS:

CHECKS & MONEY ORDERS: NO MINIMUM ORDER REQUIRED.
VISA & MC: 10 DISK MINIMUM ORDER REQUIRED ($30.00)
COD'S: DRIVER WILL ONLY ACCEPT CASH ADD $5.00 FOR COD'S
SHIPPING & HANDLING: ONLY $3.00 PER ORDER

IF YOU PREFER 3 ½" DISK FORMAT, PLEASE ADD $1.00 PER DISK TO YOUR ORDER. ORDER DIRECT: (818) 781-9975 tasks are those which must be completed in order for other tasks down the line to be finished. This lets a manager know which projects can be put off and for how long, and which tasks must be completed on time in order for the project to stay on schedule.

According to Breen, most project managers on the market will get you this far. The problem, he says, is that at this point most people tape their beautiful charts on the wall, everybody oohs and aahs, and then promptly forgets about them.

The second step is to maintain and update your charts as your project calls for it. Instead of collecting dust, your charts should be passed around, with everyone giving input as to the feasibility of your schedule. If you are encountering "slippages," you can update your charts to find out what tasks have become more critical to the completion of your project.

The third step is a big one. And this is where *Micro Planner* comes into its own. This is, according to Breen, to use his own words, where a project manager must "make your options painfully obvious."

If you put your chart up on the wall and don't look at it, the first thing that's going to happen is that your project will fall behind. All projects fall behind schedule, you might argue; it's the nature of projects. But according to Breen, this doesn't have to be. What makes *Micro Planner* so powerful is its ability to track resources and let you figure the availability of resources into your project's deadline.

For example, if you can see that with the current number of employees there is no way for you to get the project done on time, you can go to senior management and make a case for hiring more people. And you have the hard evidence to show them why you need those people. You can show them a printout of the current state of affairs, with the project's completion date slipping further and further away. Then show them the printout with the new hires figured into the equation, averting disaster.

Another example might be that you just found out that a load of supplies is going to be delivered a month late. By putting this information into *Micro Planner* you can see what effect this is going to have on your completion date and move workers around to other tasks while they're waiting for the supplies to come in.

While these are simple examples, *Micro Planner* is powerful enough to handle a myriad of variables. It is this manipulation of resources and the ability to look ahead and ask "what if?" that turns you from a reactor into a manager. It is also the point where *Micro Planner* leaves other project managers in the dust.

By the fourth step, you have not only achieved enlightenment, you are now ready to pass on your wisdom and experience. By using successful projects as templates, you can say to new managers, "This is how we run a successful project." According to Breen, most companies only have three or four types of projects. Once a template has been created, it can be shared company-wide. Managers will then be able to "resource" across department boundaries.

For example, a company might have a pool of engineers. If all the managers of different projects are using *Micro Planner*, and the manager of the engineers is using *Micro Planner*, then everyone knows exactly what engineers are available to whom and at what time, allowing everyone to prioritize and adjust their plans accordingly.

Good News For True Connectivity

What makes *Micro Planner* interesting to the connectivity-minded is its ease of use on both Macintoshes and PCs running the Presentation Manager version of Microsoft's *Windows*. Using a *Micro Planner* file that was created on a Mac on a PC is transparent.

One of the amazing things about *Micro Planner* on a PC running *Windows* is that you don't make any sacrifices. Windows has come under fire in some circles for not measuring up to existing technology. Breen debunks this by saying, "People come up to me and say '*Windows* is junk.' There's nothing wrong with *Windows*. It's just that the people who have been writing applications for *Windows* don't have the experience with windowing software that those who have been writing applications for the Mac for the last six years do."

In a side by side comparison, *Micro Planner* ran equally well in both environments. It is fully compatible with the Presentation Manager, and even runs in a window in the Presentation Manager's desktop. That's something that even Microsoft's own *Word* can't do.

If *Micro Planner* is an example of what can be expected in the future for those wishing to connect Macs and PCs, there's a lot to look forward to. (Micro Planning International, 235 Montgomery Street, Suite 840, San Francisco, CA 94104. (415) 788-3324.) ☐

Copyright © 1988 by Robert Grant Beauchamp. All rights reserved.

Quality & Service Are #1!!

HYUNDAI

Why Pay More?

Hyundai's Winning Off-Road Vehicle Delivers Outstanding Quality and Competitive Prices!

COMPLETE 30MB SUPER-286C SYSTEM SPECIAL $1595
(You must bring in this ad to receive this price)

- 80286 Intel Microprocessor
- Switchable between 8/10 MHz
- 640K RAM
- 30 MB Hard Disk Drive & Controller
- Enhanced EGA WonderCARD w/640 x 480 Resolution
- Amber Monitor
- 1.2 MB FDD w/ controller
- 1 Parallel/1 Serial Port
- Clock/calendar w/ battery back up
- AT Keyboard
- MS-DOS 3.2 & GW BASIC

Logitech Mouse or 1200 Baud Modem Included with this system

A Strong Starter
Hyundai's Super-16T puts you ahead in the PC game, for less.

- 640KB memory on the system board - the Super-16T can run today's biggest application programs.
- Built-in serial and parallel ports for connection to printers, modems, more.
- Multi-video display adaptor works with composite monochrome or color graphics (CGA) monitors.
- Your choice of storage options from one 360KB, 5.25" floppy disk drive to a big 30MB hard disk drive.
- Includes powerful software Electric Desk for word processing/spreadsheets/database management/communications, 100,000 word Spellchecker plus Keyworks for customized menus and keyboard macros.

COLOR MONITOR SPECIAL . . $235

CITIZEN™

PRINTER SPECIALS

120D/120 CPS/80 Col.	$155
180D/180 CPS/80 Col.	$175
MSP-15E/180 CPS/132 Col.	$315
MSP-40/240 CPS/80 Col.	$285
MSP-45/240 CPS/132 Col.	$395
MSP-50/300 CPS/80 Col.	$355
MSP-55/300 CPS/132 Col.	$455
Premiere 35 Daisy Wheel	$465
Tribute 124 24 Pins/200 CPS/80 Col.	$425
Tribute 224 24 Pins/200 CPS/132 Col.	$585

NETWORKING
★ ★FREE EVALUATION★ ★
MAKE YOUR APPOINTMENT NOW!
NOVELL Authorized Dealer
Share your data bases and expensive peripherals
Reduce costs • increase productivity
Allows for future expansion
Provides built-in security
Facilitates multi-user environment

ALL SYSTEMS GUARANTEED FOR 18 MONTHS!!

PC WAREHOUSE
SOUND ADVICE & NO GIMMICKS

ENCINO
15617-A Ventura Blvd.
(Just E. of Haskell)
(818) 907-6476

HACIENDA HEIGHTS
17134 Colima Road , #B & C
(Albertson Center)
(818) 913-7121

OPEN 7 DAYS

NOW 15 STORES COAST-TO-COAST

XT & AT are IBM Trademarks.
MS-DOS & GW-BASIC are Microsoft Trademarks.

FINANCING/LEASING AVAILABLE

TOP PERFORMANCE-LOWEST PRICE:

THE ATLANTIC 386 SYSTEM

Mono: $2595 Color: $2795

System Includes:
- 16 MHz 80386 Processor
- 1 MB On Board (Expandable to 4 MB)
- 200 W Power Supply
- AT Case
- AT Style Keyboard
- 1.2 MEG Floppy Drive
- 360K Floppy Drive
- Hard/Floppy Disk Controller
- Video Display Card
- Monitor
- **RUNS OS/2 OPERATING SYSTEM**

8 MHz XT Turbo Basic System $420

System Includes:
- 4.77/8 MHz Turbo Mainboard
- 256K on board
- One floppy disk drive
- 150 W Power Supply
- Case
- AT-style keyboard
- Video Display Card
- Floppy disk controller

Options:
Upgrade to 640K . $130
Multi I/O card $35

10 MHz XT Turbo Basic System $425

System includes:
- 4.77/10 MHz Turbo Mainboard
- 256K on board
- One floppy disk drive
- 150 W Power Supply
- Case
- AT-style keyboard
- Video Display Card
- Floppy disk controller

Options:
Upgrade to 640K . $140
Multi I/O card $35

12 MHz AT Turbo Basic System $890

System includes:
- 8/12 MHz Mainboard
- 512K on board
- 200 W Power Supply
- AT Case
- AT Style keyboard
- 1.2 MEG Floppy Drive
- Floppy drive controller (for 1.2 M FDD)
- 6/10 MHz System available . . . . . . Call

Options:
Upgrade to 640K. . . . . .add $45
Upgrade to 1 MB. . . . . . . .add $205
FDD/HDD Controller . . . . .add 85

These are only a few of the system configurations we have for you. Call & reserve your configurations NOW!!

Monitors

TTL		RGB		EGA	
Packard Bell	.75	TAXAN 720	$275	TAXAN 770	.539
Parco	.85	Parco	.235	NEC Multisync	.599
				EGA Autoswitch card	.149

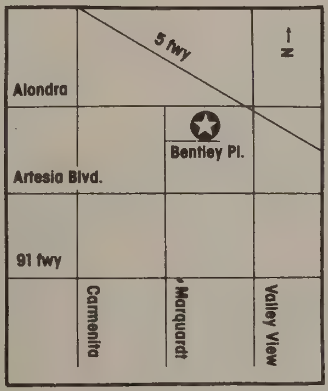
Hard/Floppy Disks

TEAC 360	$80
TEAC 1.2MB	.99
Sony 720K 3.5"	.105
Sony 1.44 M 3.5"	.120
Fujitsu 360K	.75
Seagate ST225 20 MB w/ controller	.285
Seagate ST238 30 MB w/ controller	.295
Seagate ST251 40 MB	.440

Printers

Panasonic 1080	$179
1090	.219
Citizen 120D	.169
MSP 10	.279
MSP 15	.345

Items reflect a 3% cash discount. Shipping and handling charges extra. Prices and availability subject to change without notice. Dealer inquiries welcome.



ATLANTIC COMPUTER PRODUCTS

13839 Bentley Place #A • Cerritos

213-404-7767

Fax: 213-404-2608

DEALER INQUIRIES WELCOME

SPECIAL DISCOUNT PRICES TO DEALERS

BMUG

BY DAVID MORGENSTERN

BMUG Comes To MicroTimes

Welcome to the first BMUG column! Or, to be more precise, the very first *MicroTimes* column by and about BMUG, Inc.

What is BMUG? Good question. BMUG is an educational non-profit corporation, promoting the exchange of information. Like any growing organization it is many different things to its 3000+ international membership. BMUG, Inc. is a computer user group located in Berkeley, California. We specialize in computers using a graphic interface. For a while that meant the Macintosh, but now includes other makes, models and operating systems. We support many Special Interest Groups (SIGs), a five-line BBS, help-line, software library, weekly meetings and much more. We also put out a semi-annual book that we call a newsletter. Our motto continues to be: *We're in the business of giving away information.*

Recently our members have expressed concern about computer viruses. We offer BMUG Utilities disk #8, which is full of virus-killing and -finding programs. Viruses are overrated — most users won't ever see one; a show of hands at a recent meeting indicated that about a dozen members had experienced an attack, mostly software publishers, professional programmers or sysops. The current crop of viruses are also easy to detect.

Other tips to minimize your vulnerability to virus attack: back up your files frequently. It's now advisable to keep different types of backups. Make multiple backup sets, with incremental backups onto clean disks, and archival or "milestone" backups, to be used in the event one of your more "frequent" backups becomes infected. The milestone backup should be a backup of system and applications — things that don't change often, but take a lot of time to restore from scratch. Data files should be backed up separately.

Another tip: save working documents as "Text Only" or SYLK or other formats which are *data only* and *have no resource fork*. If nothing else, you can preserve your data that way.

There are currently several programs available which take different approaches to the virus problem. *Vaccine* is preventative — it watches for certain ways of changing things. *InterFeron 2.0* looks for certain patterns in code and resources after the fact to detect infection. *VIrus RX* (from Apple, released in the first week of May) does the same. It also helps check out your disk — it sometimes says that things are infected when they really aren't, because the patterns the program searches for occur "naturally." *Ferret 1.1* (although some say it is buggy) is the most effective at actually removing viruses. *Agar* is designed to *attract* infection and alert you immediately.

TIP:

The official BMUG prescription for dealing with virus infections is the following—take off your data and then reformat your drive. Better to be safe than sorry.

Here We Come To Save The Day!

The BMUG Help Line, (415) 849-HELP, provides technical assistance and primary hand-holding during business hours (9:00 am – 6:00 pm). If your question can't be answered on the spot, we try to get you in touch with someone that can help. Of course, not every problem can have a happy ending — but we try.

During finals, in late May and early June, the Help Line is swamped with word processing and disk failure problems. Here are some tips to help you **avoid** the Help Line!

- **Back up your work!** I'm always amazed at how few users ever back up their work — even many computer "geniuses" don't bother. How many hours of work can you afford to lose for the price of a couple of floppies? A user showed me a disk with problems the other day. He said, "the disk has been working fine for the past couple of years...." Your floppies need vacations too. They don't last forever.

- **Save your work!** I know saving takes time and stops your creative flow, but save your work to disk every five or so minutes. Microsoft *Word* users: If you find your document growing and growing on your disk and not on the screen, you're probably using the *Fast-Save* instead of a normal *Save*. Do a *Save-As* and you'll compact your document.

- **Look out for memory problems!** The new powerful word-processors love memory. In order to speed things up, these programs put parts of your work in caches — like squirrels. Sometimes there's not enough memory to do all the things you or the program want to do. Crash!

Although software publishers claim that these programs will work on a 512K Mac, some of them are hard pressed to work on a Mac Plus or SE with only one megabyte of memory. Many memory-resident utilities, INITs, beep sounds, some dictionaries and thesauri, and other goodies can steal memory from your program. Be careful cutting and pasting large hunks of your document or between open documents.

- **Don't initialize your work disk if something goes wrong.** Sometimes the information that tells the Mac what's what and what's where on your disk gets mixed-up. Sometimes the Mac thinks that the disk you've been working on (with your thesis, paper or book) isn't a Macintosh disk anymore. You get the choice of initializing or of ejecting. Some new users think initializing will fix the disk. Wrong!

TIP:

Have you ever lost a label in your ImageWriter printer? Don't bother with major surgery. To remove a label: Squirt in PCB cleaner and drench the label. Wait five minutes, then roll a business card through on friction feed to snag the label. Roll through a paper towel, first wet, then dry. Then print two pages of test on normal paper.

Many people feel they should *do something* to regain control over the situation. The new system (6.0 and available at BMUG for $8.00) now tells you what initialization will mean to your work if you act on your subconscious button-pushing desires. Lost data is often recoverable with recovery programs, but not after initialization.

You can reach BMUG at any of the following numbers: (415) 549-2684 (Business Office); (415) 849-9114 (Announcements/Meeting Schedule). ☐

Copyright © 1988 by David Morgenstern and BMUG. David Morgenstern is a Bay Area "MacNurturer" and BMUG member. David is DMORGENSTERN on GEnie and himself at (415) 641-7352.

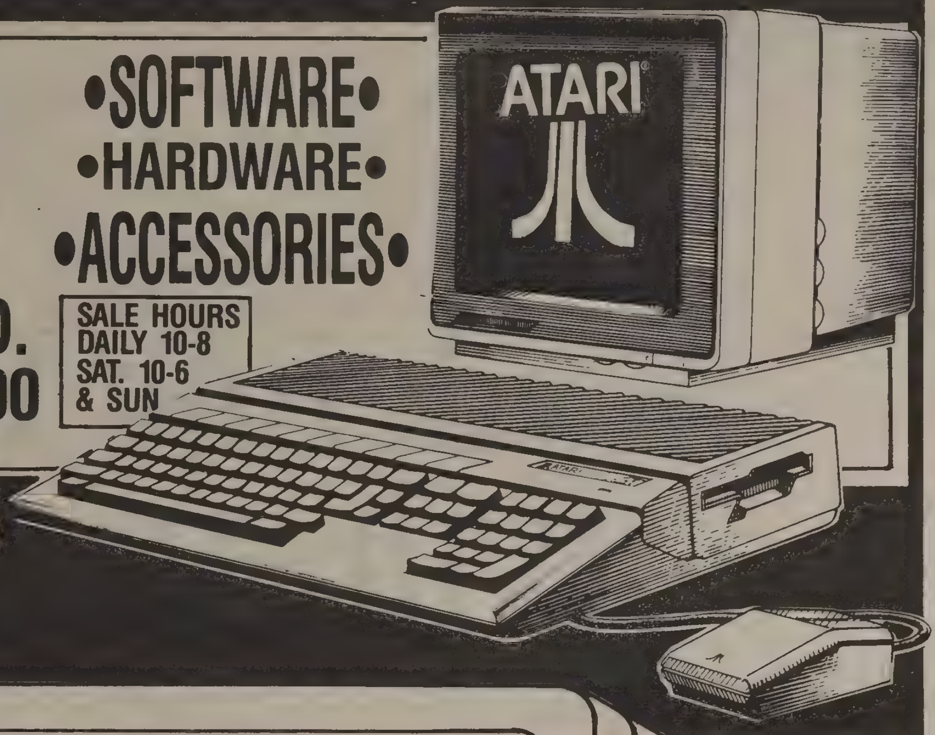
CES

COMPUTERS
COMPUTERS
COMPUTERS

•SOFTWARE•
•HARDWARE•
•ACCESSORIES•

335 S. STATE COLLEGE BLVD.
FULLERTON 447-8300
NORTH OF ORANGETHORPE W. OF 57 FWY. N. OF 91 FWY.

SALE HOURS
DAILY 10-8
SAT. 10-6
& SUN



ATARI • SAMSUNG • AMERICAN TEL • SEAGATE
SUPRA • BLASER • F.T.L. • HAYDEN
BRODERBUND • SIMON AND SHUSTER

"MAKING ROOM FOR NEW STOCK"

SOFTWARE

75% OFF

- **Apple Software**
  (Apple II and Apple II Plus)
- **Many Books for IBM and Apple**
- **Passport Midi Software**

- STEINBERG MIDI SOFTWARE
- DRAFIX 3D CAD
- MIDI MUSIC APPLICATION • 3D-CAD
- DESKTOP PUBLISHING • BLASER LASER PRINTER

MUSIC SOFTWARE 75% OFF

BY BIRRELL WALSH

Academic Hypertext With HyperCard

HyperCard for the academic market has applications we're only beginning to explore. The May 16, 1988 issue of *InfoWorld* reports that the University of Chicago is using *HyperCard*'s Hypertalk programming language rather than Pascal in its beginning programming course.

HyperCard has so many features that it is easy to lose sight of the "Classical" idea of Hypertext for all the other goodies. When Ted Nelson conceived of hypertext, he was thinking of information that led on to other information in a pattern more complex than the sequential order of a book. A person could jump from topic to related topic in a possibly endless exploration. This month's column is devoted to this kind of "see-also" connections and the things you can do with them in an academic environment.

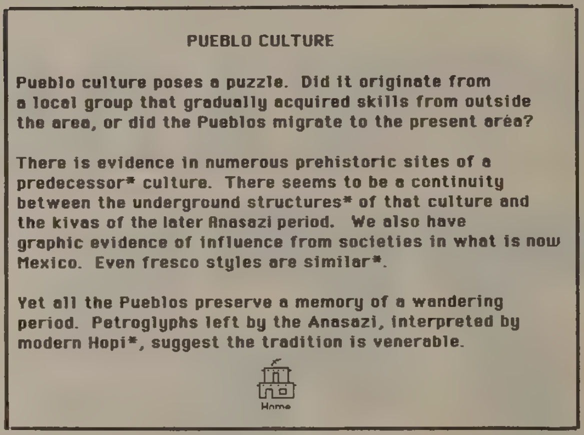
Classical Hypertext may appeal to teachers, because what linking is best for is the transfer of information. You can provide some central ideas and let the browser choose which side branches to move down. You can annotate a drawing with hidden comments which only appear when the user wants to see them. The viewer can see the original graphic untainted by text, or fully explained, as may be appropriate.

We spent some weeks this spring in the Southwest visiting Anasazi sites. The Anasazi were ancestors of the modern Pueblo Indians. They built exquisite stone cities on the Colorado Plateau of New Mexico, Arizona, Utah and Colorado. Some of these cities were in huge cliff-caves, which is why we call the Anasazi the "cliff-dwellers." We did a lot of research about these mysterious people.

The first card of our stack is a simple page of text describing a question about the Anasazi/Pueblo culture. Today's scholar is confined to this venerable but limiting medium — a flat page.

The first Hypertext change we make is to make some notes that appear when the reader clicks on starred text. One click and the note appears. A click on the note and it vanishes. This is still text, but augmented with hypernotes.

One argument for cultural continuity is best made graphically. When the reader clicks on the text about "underground structures," *HyperCard* links to a full-page graphic that displays the similarities between dwellings from the two different times. The hypertext user can see the illustration by pushing a button, instead of leafing through the book searching for plates. A spiral-pattern button leads back to the original page of text.



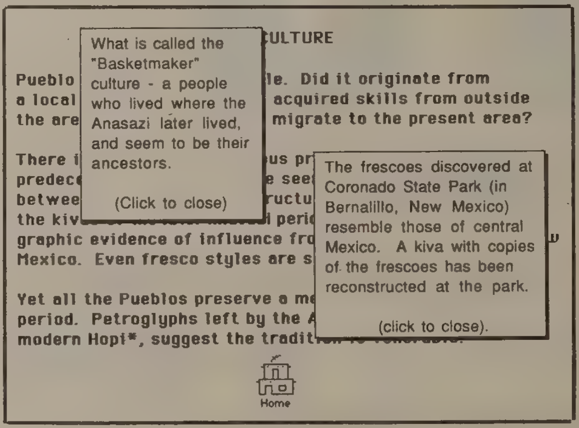
PUEBLO CULTURE

Pueblo culture poses a puzzle. Did it originate from a local group that gradually acquired skills from outside the area, or did the Pueblos migrate to the present area?

There is evidence in numerous prehistoric sites of a predecessor* culture. There seems to be a continuity between the underground structures* of that culture and the kivas of the later Anasazi period. We also have graphic evidence of influence from societies in what is now Mexico. Even fresco styles are similar*.

Yet all the Pueblos preserve a memory of a wandering period. Petroglyphs left by the Anasazi, interpreted by modern Hopi*, suggest the tradition is venerable.

Home



ULTURE

Pueblo le. Did it originate from
a local acquired skills from outside
the are migrate to the present area?

There i us pr
predece e see
betwee ructu
the kiv i peri
graphic evidence of influence fro
Mexico. Even fresco styles are s

Yet all the Pueblos preserve a me
period. Petroglyphs left by the A
modern Hopi*, suggest the tradit

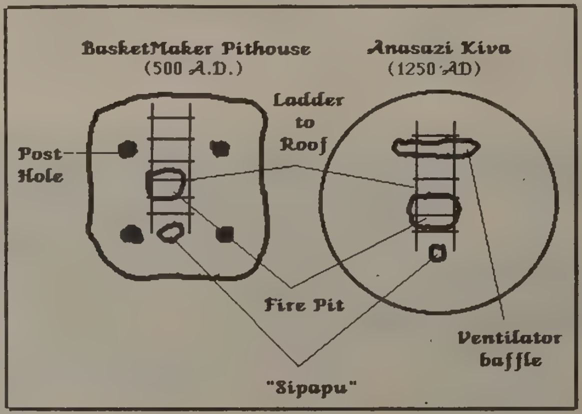
What is called the "Basketmaker" culture - a people who lived where the Anasazi later lived, and seem to be their ancestors.

(Click to close)

The frescoes discovered at Coronado State Park (in Bernalillo, New Mexico) resemble those of central Mexico. A kiva with copies of the frescoes has been reconstructed at the park.

(click to close).

Home



HyperCard allows an author to place buttons in the text, which can be clicked to show more information on other cards or as boxes within the text itself.

What linking is best for is the transfer of information. You can provide some central ideas and let the browser choose which side branches to move down. You can annotate a drawing with hidden comments which only appear when the user wants to see them.

The Anasazi abandoned their cities and moved to their present homes in the twelfth and thirteenth centuries. They left a few enigmatic carvings on rock walls. Most of these petroglyphs are untranslated, but in 1942 some Hopis were invited to interpret those at Mesa Verde. The Hopis reported that they were a record of the Anasazi's migration. This image supports Pueblo traditions of a period of wandering before their settlement in the Southwest.

The translation is far from obvious, and shows how *HyperCard* can be used to interpret graphic material. If the user clicks on the figures of the pictograph, a text explanation appears. If the text is clicked upon, it disappears. One can make very finely-detailed annotations of illustrations without cluttering the graphic itself.

Quality and Dependability,
Packaged with a Terrific Price...
THE WINNING COMBINATION !

DISPLAY CARDS

COLOR/GRAPHIC/PRT	$45
MONO/GRAPHIC/PRT	$45
MULTI DISPLAY (MGP/CGP)	$50
EGA WITH PRINTER PORT	$125
EVEREX EGA W/PRT (EV-659)	$150
OMNI 900 (800x600) ATI	$205
ATI V.I.P. VGA (640x480)	$270
GENOA VGA 5100 (640x460)	$305
GENOA SUPER EGA (800x600)	$195

POWER SUPPLIES

150 WATT POWER SUPPLY	$45
200 WATT XT SIZE POWER SUPPLY	$60
200 WATT AT POWER SUPPLY	$70

MOTHERBOARDS "0"K W/BIOS

XT TURBO 4.77/8 (Dtk)	$75
XT TURBO 4.77/10 (Dtk)	$80
"0" WAIT BABY AT 286/10 (Dtk)	$245
"0" WAIT AT 286/10 (Dtk)	$250
"0" WAIT AT 286/12 (Dtk)	$305
BABY AT 286 6/8/10/12	$270
BABY AT 286 6/12 4MEG Opt	$280
AT 386/16 w/ 1MEG/4 Opt	$1460
AT 386/20 w/ 1MEG/4 Opt	$1875

INTERFACE CARDS

XT MULTI I/O (SP/PP/GP/Clock & Floppy Contrlr)	$45
XT I/O PLUS (SP/PP/GP/Clock)	$35
XT DRIVER CARD	$15
XT/AT MINI MICRO DRIVER	$35
AT I/O (SP,PP,GP)	$35

ADD ON CARDS

XT/AT SERIAL 1 PORT	$20
XT/AT PARALLEL PORT	$15
XT/AT GAME ADAPTER	$14
XT CLOCK CARD	$20

ADD ON MEMORY CARDS

XT 640K RAM CARD "0"K	$25
XT 2MEG EMS CARD "0"K	$50
AT 2MEG MULTIFUNCTION "0"K	$85
EVEREX AT 3MEG EMS CARD "0"K	$95

FLOPPY DISK DRIVES

MITSUMI	
360K 1/2-Height (Black)	$65
1.2M 1/2-Height (White)	$85
TOSHIBA	
360K 1/2-Height (Black)	$70
360K 1/2-Height (White)	$75
1.2M 1/2-Height (White)	$90
720K (3.5") w/ KIT	$95
1.44M (3.5") w/ KIT	$105

HARD DISK DRIVES

SEAGATE	
20 MEG ST225 W/Controller	$262
30 MEG ST238R W/Controller	$290
40 MEG ST251-2 (38MS)	$338
40 MEG ST251-1 (28MS)	$429
60 MEG ST277R (38MS)	$452
80 MEG ST4096 (28MS)	$687
MINISCRIBE	
20 MEG M#8425F (40MS)	$240
30 MEG M#8438F (40MS)	$280
44 MEG M#3053 (25MS)	$610
70 MEG M#6085 (28MS)	$730

HARD DISK CONT. W/CABLES

WESTERN DIGITAL	
WD GEN XT MFM	$50
WX27 XT RLL	$63
WA2 AT FLOPPY & HARD	$110
ADAPTEC	
ACB 2072 XT RLL	$60
ACB 2372 AT F&F RLL (1:1 Int.)	$147
DATA TECHNOLOGY (DTC)	
DTC AT FLOPPY & HARD MFM	$105
DTC AT FLOPPY & HARD RLL	$140

TAPE BACK-UP DRIVES

IRWIN	
120D Internal 20MB XT (500KBPS)	$322
125D Internal 20MB AT (500KBPS)	$322
745SP External 40MB (500KBPS)	$439
145D Internal 40MB AT (500KBPS)	$325

KEYBOARDS

MITSUMI	
5060 (84-KEY/NON TACTILE)	$45
5339 (101-KEY/NON TACTILE)	$55
CHICONY	
5160 (84-KEY/TACTILE)	$50
5161 (101-KEY/TACTILE)	$60
KEYTRONIC 101 (101-KEY/TACTILE)	$60
KINGSPAO 101 (101-KEY/TACTILE)	$60

MONITORS

NANAO	
8060S FLEXSCAN (800x600/.28mm)	$545
SAMSUNG	
AMBER W/ SWIVEL	$70
RGB COLOR W/ SWIVEL	$245
EGA COLOR W/ SWIVEL	$355
CASPER	
AMBER W/ SWIVEL	$70
RGB COLOR	$245
EGA COLOR W/SWIVEL	$360
MULTIMODE EGA MONITOR	$470
Q-COM	
14" FLAT W/SWIVEL	$110

PRINTERS

CITIZEN	
120D (120 CPS)	$155
180D (180 CPS)	$175
MSP-40 (240 CPS)	$310
MSP-45 (240 CPS/132 COL)	$440
MSP-50 (300 CPS)	$400
MSP-55 (300 CPS/132 COL)	$520
TRIBUTE 124 (200 CPS/24 PIN)	$500
TRIBUTE 224 (200 CPS/24 PIN/WIDE)	$645
PREMIERE 35 (35 CPS/DAISYWHEEL)	$495

MODEMS

EVEREX	
1200 INTERNAL	$90
2400 INTERNAL	$190
2400 EXTERNAL	$255
LYNKERS	
1200 INTERNAL	$55
1200 EXTERNAL	$95
2400 INTERNAL	$145
2400 EXTERNAL	$165
US-ROBOTICS	
1200 INTERNAL	$56
MASTERCOM	
1200 INTERNAL (w/ BITCOM)	$55
2400 INTERNAL (w/ BITCOM)	$125
9600 INTERNAL (w/ BITCOM)	$1056

MOUSE

LOGITECH	
C7-SERIAL	$69
C7-BUS VERSION	$69
-WITH LOGIPAINT	$89
-WITH LOGICADD	$110
-WITH LOGICADD & LOGIPAINT	$130
PUBLISHER MOUSE (SERIAL VER.)	$120
SERIES II W/PLUS SOFTWARE	$60
HI-REZ MOUSE W/PLUS SOFTWARE	$95
SERIAL C7-M8 (2 BUTTONS/9 PINS)	$40
SERIAL C7-M8 (2 BUTTONS/25 PINS)	$40
J-100 JOYSTICK	$20

CABLES

MONITOR EXTENSION	$7
KEYBOARD EXTENSION	$5
PARALLEL PRINTER CABLE 6FT	$8
PARALLEL PRINTER CABLE 10 FT.	$10
SERIAL 6FT. MALE/MALE	$8
SERIAL 6FT. MALE/FEMALE	$8
SERIAL 6FT. FEMALE/FEMALE	$8
CENTRONIC/CENTRONIC CABLE	$10
SERIAL DB9 / DB25 ADAPTER CABLE	$5
XT HARD DISK CABLE	$5
AT HARD DISK CABLE	$9

SWITCH BOX

AB SERIAL SWITCH BOX	$22
AB CENTRONIC SWITCH BOX	$25
ABCD SERIAL SWITCH BOX	$29
ABCD CENTRONIC SWITCH BOX	$31
GENDER CHANGERS (M/M;F/F)	$4

POWER PADS & SURGE SUPPRESSORS

POWER STRIPS	$10
POWER CENTER PAD	$30
CP-5 MINICENTER W/ SWIVEL	$ 50

COMPUTER STAND AND ACCESSORIES

COMPUTER STAND (PLASTIC)	$10
COMPUTER STAND (METAL)	$29
KEYBOARD DRAWER	$29
COPY HOLDER	$15
MONITOR SWIVEL BASE	$20
HANDY SCANNER	$234

DISKETTES AND DISK STORAGE

GENERIC 360K DISKS	$.50
GENERIC 1.2MB DISKS	$1.75
GENERIC 3.5", 720KB	$1.75
GENERIC 3.5", 1.44MB	$6
DISK STORAGE- 5.25" (100Pcs Cap.)	$8
DISK STORAGE- 3.5" (40Pcs Cap.)	$7

MICA COMPUTER FURNITURE

PCT2000 TABLE w/PRT TRAY	$55
PCT3000 TABLE w/CLOSED STORAGE	$65
PCT4000 TABLE w/ROLL COVER	$65
PCT6000 OFFICE DESK w/DRAWER	$80
PCT7000 OFFICE DESK W/TOP SHELF	$95
CPT100 80 COL. PRINTER STAND	$40
CPT200 132 COL. PRINTER STAND	$50
CPT250 132 COL. ALL WOOD STAND	$40

BAREBONESBAREBONESBAREBONESBAREBONES

10 MHz XT (8088)

XT/AT Slide Case
with Turbo & Reset Buttons
150 Watt Power Supply
10MHz XT Mainboard "0"K
FCC "Class B" Approved
Assembled & Tested *

$ 160

10 MHz AT (80286)

AT Slide Case
with Turbo & Reset Buttons
200 Watt Power Supply
10MHz AT Mainboard "0"K
101-key Tactile Keyboard
FCC "Class B" Approved
Assembled & Tested *

$ 405

16 MHz AT (80286)

AT Digital Slide Case
with Turbo & Reset Buttons
200 Watt Power Supply
15.5MHz AT Mainboard "0"K
80286-16 MHz CPU Chip
FCC Approved **
Assembled & Tested *

$ 620

16 MHz (80386-16)

AT Slide Case
with Turbo & Reset Buttons
200 Watt Power Supply
16MHz '386 Mainboard (4MB Opt.)
1MB RAM Memory
FCC Approved **
Assembled & Tested *

$ 1620

Melawares International Corp.
dba

Mica
COMPUTER CENTER

CALL and COMPARE: (213) 491-0640

LONG BEACH
(Corporate Headquarter)
(213) 491-0640
TOLL FREE: (800) 642-7799
FAX: (213) 436-4477

IRVINE
(714) 250-9029

SANTA MONICA
(213) 473-5668

LAWNDALE
(213) 214-0737

PASADENA
(818) 440-9821

Corporate Accounts : Call Long Beach Office   Dealers : Call for Volume Discounts.

Prices subject to change without prior notice.
Formerly dba UCR Business Centers.

* Barebones tested when purchased with RAM
** FCC "Class A" Approval

APPLE COMPATIBLE DISK DRIVES

½ Height Apple Comp.	$89
Full Height Apple Comp	.99
IIc ½ Height Floppy Drive	.95
Macintosh 800K	.170
Apple IIgs Drive	.165

APPLE TYPE CARDS

IIe 80 column w/64K	$44
Disk Controller	.42
Parallel Interface	.40
Graphics Parallel	.59
16K RAM Card	.34^{95}
Super Serial Card	.69
CPM Card	.39
No Slot Clock	.39

DISKETTES

DS DD 5¼″ Box of 10	$4^{50}
High Density Box of 10	$13
DS DD 3½″ 10 Pieces	14^{50}
Apple & IBM Joysticks	$22
6 Outlet Surge Protector	.9
Apple II, II+ Joysticks	.15
IBM MKVI Joystick	.39

MOUSE SPECIALS

M-2 Mouse w/Microsoft & PC Mouse Software	$64
Genius Mouse w/Driver Software & Dr. Halo III & Mouse Pad	.69
Mouse Pads	.6

CHIPS

Due to Price War Please Call For Best Prices
16K, 64K, 256K, 1 Meg 2716, 2732, 64, 256, 8087, 8087-2, 80287-6, 80287-8, 80287-10

IBM COMPATIBLE DRIVES

TEAC 55BV ½ Height 360K	$80
Fujitsu ½ Height 360K	.75
1.2 Meg AT	.90
3½″ 720K with 5¼″ mounting kit	.89
Toshiba 3½″ 1.44MB	.119
20 Meg w/Controller	.259
30 Meg w/Controller	.319

IBM TYPE CARD

Floppy Controller	$34
XT 1.2MB Floppy Controller	.52
Clock Card	.34
Serial Card	.34
Multi I/O	.52
Hard Drive Controller	.65
Hard Drive RLL Controller	.75
Monochrome w/Print	.49
DOS 3.2/3.3 w/GW BASIC	.69/92
Samsung Amber Monitor	.80
Clock Card w/Serial Port	.44
AT/XT EMS	.95
AT I/O	.45
No Slot Clock	.39

STOP

AND COMPARE OUR PRICES

MODEMS & CABLES

IBM 1200 Baud Internal	$69
1200 Baud HC AVATEX	.109
2400 Baud External	.149
1200 HC EXTERNAL	.79
6′ Parallel Cable	.8
Serial M-M or M-Female	.8
Macintosh Modem Cable	.10
IIe to IIC Drive Adapter	.10

We Ship Daily • 90 Day Replacement Warranty
DEALER Inquiries Welcome • Minimum $2 Shipping Charge
No Charge Cards Accepted

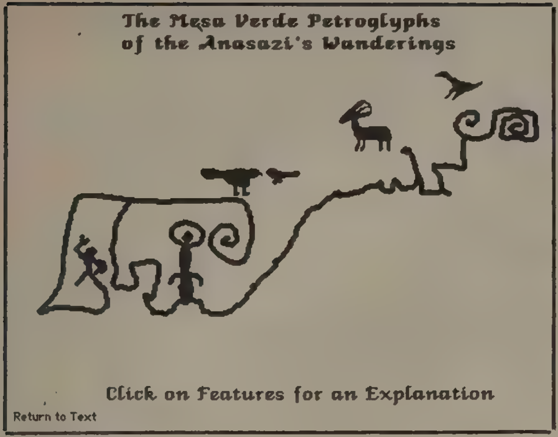
GUENTHER

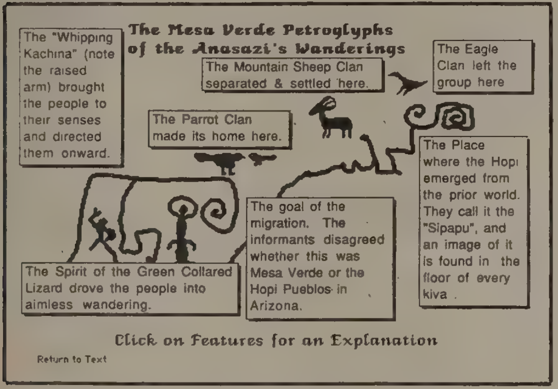
COMPUTER PRODUCTS INC.

312 Locust St.
Santa Cruz, CA 95060
New Larger Location To Serve You Better

(408) 458-9404

Please Include
$2 Minimum Shipping Charge


The Mesa Verde Petroglyphs
of the Anasazi's Wanderings
Click on Features for an Explanation
Return to Text


The Mesa Verde Petroglyphs
of the Anasazi's Wanderings
Click on Features for an Explanation
Return to Text

The "Whipping Kachina" (note the raised arm) brought the people to their senses and directed them onward.

The Mountain Sheep Clan separated & settled here.

The Eagle Clan left the group here

The Parrot Clan made its home here.

The Place where the Hopi emerged from the prior world. They call it the "Sipapu", and an image of it is found in the floor of every kiva .

The goal of the migration. The informants disagreed whether this was Mesa Verde or the Hopi Pueblos in Arizona.

The Spirit of the Green Collared Lizard drove the people into aimless wandering.

Buttons may also be created to provide further explanations of graphics.

It is not so much the application that is remarkable as the fact that I was able to design the whole thing — drawing, text and scripts — in about three hours. Scholars may soon prefer working in *HyperCard* to traditional authorship. *HyperCard*, with minimal programming, creates a multi-dimensional medium for monographs. Footnotes are replaced by linkages, and graphic arguments can be made with great precision. The Macintosh is already a favorite tool in the University. Let us know, please, when the first instructor accepts the first "term-stack."

The Anasazi would have loved *HyperCard*.

HyperCard 1.2 Is Here, Sort Of...

Bill Atkinson spoke to people at Apple this month, and handed out copies of *HyperCard* 1.2 to those who brought along a disk. Harriet Talan was there and reports that the crowd was happy: "They applauded wildly on hearing of reducible size to 700K rather than 750K."

Scholars may soon prefer working in HyperCard to traditional authorship, because it creates a multi-dimensional medium for monographs.

You will be able to bring up scripts immediately with Command-Option-C for the card; command-option to see all visible buttons. You can click on one to see its script.

About 200 bug fixes have been made by the *HyperCard* team.

Two new "find" commands will allow you to find either whole words or strings embedded in other strings. There are a whole gaggle of functions to report where something has been found. That means that you can search for a string, and then (say) examine in more detail the field in which it was discovered. Searches are also faster.

You can write-protect stacks.

You will get faster stack compacting.

The first stage of shared access has arrived. So far it is read-only on a file-server, but more is to come.

All in all, those who program in HyperTalk will have an easier time of it. The obvious question is, when can we lay hands on it?

If you were at the meeting, or know somebody who was, or know somebody who knows somebody — right away. Otherwise, who can say? Apple is not speaking. And rumors are that *HyperCard 2.0* should be out about the end of the summer.

Keeping In Touch

This month's stack is available on the WELL (415/332-6106; you must join to use it and it is well har har worth it). You can find it by typing "g hype" to get to the *HyperCard* conference, then "lib" to visit the library. The stack and column are compacted as a "Stuff-It" archive.

You can leave messages, comments, praise and blame for stackware and *HyperCard* on the WELL (415/332-6106; user ID "birrell") or CompuServe (User ID 72466,3567) or by US Mail to:

Birrell Walsh
2440 Sixteenth Street #165
San Francisco, CA 94103

Copyright © 1988 by Birrell Walsh. All rights reserved.

DISCOVER THE DISCOUNT

3½" HD
PS/2 2MB
$3.20

25¢
BULK
Bulk diskettes come with hub rings, packaged in poly bags. Add the following extras.

Paper sleeves	2¢
Tyvek sleeves	4¢
Labels & tabs	2¢

Price for minimum 100 diskettes

33¢
WHITE BOX
Packaged 10 disks in a plain white box and includes the following: sleeves, tyveks, labels, tabs.

44¢
COLOR
Including: sleeves, labels, tabs. Light blue, white, lavender, gray, red, brown, green, yellow, burgundy, blue, rainbow pack.

99¢
3.50
Double Side

95¢
3.50
Single Side

59¢
5.25 HD
(1.2 MB)

COLOR HIGH DENSITY
AVAILABLE

PCCI

DISKETTES

Verbatim

Data Life 5¼" DSDD	$8.50
NEW Data Life 5¼" HD Preformatted	$13.95
Data Life Plus 5¼" Teflon Protection	$9.50

maxell

5¼" box of 10 disks	$8.95
5¼" HD	$17.95
3½" HD	$43.00

SONY

3½" DSDD	$16.50
3½" HD	$44.95

Dysan

5¼" DSDD	$9.99
5¼" HD	$13.50

DATATECH

5¼" DSDD	$4.95
5¼" HD	$9.90
3½" DSDD	$12.50

BASF

3½" DSDD	$14.50
5¼" HD	Available

OPUS

5¼" DSDD	$5.50
5¼" HD	$14.99

High Density for AT
Colors:
Red, blue, yellow, green, gray, burgundy, white .... 89¢

ATTENTION:
DEALERS/VOLUME BUYERS
We'll beat any advertised price for diskettes in Southern California!

Ribbons Available

ACCESSORIES

Computer Paper 9½" x 11" 2,500 sheets	$20.99
Computer Paper 14 7/8" x 11" 3,000 sheets	$29.99
Computer Cables (Parallel, Serial, etc.)	$7.99
Power Surge Control (UL)	$8.99
AC Power Pad (Master Pad)	$22.99
Keyboard Drawer (Wooden or Gray Metal)	$29.99
5¼" Diskholder holds over 140 diskettes	$10.99
5¼" Diskholder holds over 100 diskettes	$8.99
5¼" Diskholder holds over 50 diskettes	$6.99
5¼" Smokey Deluxe Library Case holds 10 disks	$1.49
3½" Diskholder holds over 80 diskettes	$10.99
3½" Diskholder holds over 50 diskettes	$9.99
Data Switch Box (AB, ABC, ABCD)	Available
3½" Deluxe library case holds over 20 diskettes Perfect Data	$14.99
3½" Smokey Deluxe Library Case holds 10 diskettes	$1.49
5¼" Head Cleaning Kit for disk drives	$3.99
3½" Head Cleaning Kit for disk drives	$3.99

Add 3.00 for shipping over 100 diskettes.

Pillarco, Inc.

VISA MasterCard AMEX

Same Day Shipping
Prices subject to change
without notice.

1633 Westwood Blvd. #120
Los Angeles, CA 90024
Monday-Friday 8:30-7:00
Saturday 10:00-6:00
(213) 477-5442
FAX (213) 275-4627
1 (800) 441-3475

179 S. Beverly Dr.
Beverly Hills, CA 90212
Monday-Friday 9:30-6:30
Saturday 10:00-5:00
Software and Hardware
call (213) 275-2200

Wiretap-Hungry DAs Threaten ACA 36

By Brock N. Meeks

This column is either an epitaph or a campaign platform.

Should it turn out to be an epitaph, the tombstone will read: Here Lies the First Hope of Free Speech in the Information Age. Likewise, the campaign platform slogan will likely read: Vote Freedom; Vote Yes on ACA 36.

I'm talking, of course, about Assemblymember Gwen Moore's (D-L.A.) proposed amendment to the California Constitution, otherwise known as the "Freedom of Electronic Speech" amendment.

As this column goes to press, ACA 36 is teetering on the verge of defeat. Like a criminal on death row, it awaits a midnight reprieve.

The analogy to a criminal isn't farfetched. The amendment has been treated as such by the California Attorney General's office and the California Association of District Attorneys. Let me assure you, however, the railings against ACA 36 are uncalled for, and, if I can take a columnist's license, are criminal in and of themselves.

Moore has fended off the AG and CDAA in a tireless effort to bring this amendment before the people; the process has been a struggle from day one, often appearing more like a battle than legislative protocol.

And for what? This amendment would only add some 14 words to the California constitution, and delete a few others (the word "and"). Yet it contains the potential to preserve the integrity of words "spoken" via the electronic medium of computer-based communications.

The California Association of District Attorneys sees any kind of constitutional amendment as a "potential threat" to its wiretapping expansion plans.

Bob Jacobson, one of Moore's legislative aides and principal consultant to the Assembly Utilities Committee, is right on target when he says, "This bill will give electronic communications the same freedom-of-expression and privacy protections now enjoyed by conventional forms of speech. It will provide protections for electronic information stored on databases, like other forms of property, from unwarranted search and seizure." Hardly the stuff of "criminal" nature.

The bill has garnered support from diverse groups such as the California Library Association, the ACLU and even the phone company (after some initial juggling of the bill's text). The opposition, now, stems from the "good guys," those law-and-order cowboys at the CDAA and the AG's office.

The Smell Of Blood

The recent victory of the CDAA and AG in ramming through a wiretapping act for California has bolstered these two groups' bravado. It's provided a certain smell of blood in the air, and now they are going for the jugular; they want no constitutional amendment that might, at some future date, prevent them from further increasing powers of the wiretap act.

The CDAA delivered a letter to the Senate Judiciary Committee (where the bill will ultimately live or die) on May 16th claiming that ACA 36 is "unnecessary." Nice timing.

According to Jacobson, the CDAA was not in opposition last year, during the bill's earlier hearings. When Jacobson called to reaffirm that the CDAA hadn't previously sent any opposing letters, he asked a CDAA staffer to recheck their files. No record of opposition could be found. When CDAA Executive Director Gary Mullen found about Jacobson's call, he chastised him for "poking into the files."

Does that sound like someone with something to hide? Like maybe a hidden agenda? Bingo.

Mullen has told Sacramento insiders, in no uncertain terms, that the current wiretapping act is only a "first step" and that there are plans to "expand the wiretapping rights" in the future. The CDAA, therefore, sees any kind of constitutional amendment as a "potential threat" to wiretapping expansion plans.

As the current wiretap act stands, it is specifically limited to aural conversations only; but as we've seen with the Electronic Communications Privacy Act of 1986, which amended the federal wiretap act, electronic communications are very much in the mind of law enforcement officials. It seems the California law and order types want to be sure nothing will ultimately stand in their way when they push for expansion of the California wiretap act to include electronic communication.

You would think that, being attorneys, these guys would be open to debate and negotiation. Hardly. "Why negotiate if, by simply raising opposition in a letter, you can kill a bill?" says Jacobson. The CDAA has a "lock" on the Judiciary committee; Vice Chairman of the Judiciary committee, Ed Davis (R-San Fernando) is a former LAPD police chief. And committee chairman Sen. Bill Lockyer (D-San Leandro) has said that if the CDAA opposes the bill, his committee isn't likely to pass it.

As the current wiretap act stands, it is specifically limited to aural conversations only, but as we've seen with the Electronic Communications Privacy Act of 1986, which amended the federal wiretap act, electronic communications are very much in the mind of law enforcement officials.

The most disturbing aspect of this, however, is that Lockyer has no reason to "go to the mat" over the bill. The bill hasn't garnered the overwhelming support from the very community that stands to lose the most: modem owners.

Zero (Electronic) Tolerance

Don't get me wrong. I'm just as much for law and order as the next guy. But when law enforcement types start laying out their not-so-secret agendas, well, I get nervous just where it might lead.

If the freedom and sanctity of my electronic communications are a threat to law and order, what next? My library card? (See my previous column on the FBI before you laugh too hard.)

I can see it now—the government starts a "zero tolerance" policy that encompasses electronic communications. Mention "roach" in a message, and within 24 hours the Drug Enforcement Agency shows up at your doorstep ready to haul away your desktop computer and all your disks. No ques-

Copyright © 1988 by Brock N. Meeks. Brock Meeks is a San Diego-based columnist. He's ordering up "Yes on ACA 36" bumper stickers, not a wreath of roses.

DEALERS & CONSULTANTS ONLY

Please Call For Complete Confidential Price List

IBM

IBM

PS II Model 25 Mono/Color	$969/1195
PS II M.25 M/C + 20 MB HD	1395/1650
PS II Model 30 2 Dr. + 20 MB	**1595**
PS II Model 30-002/021	1195/1645
PS II Model 50-021	**2395
PS II Model 60 44 MB/70 MB	*3195/3595
**PS II Model 80-115 20MHz	6295**
PS II M.80 44 MB/70 MB	**3995/4695
AT 339 (8MHz, 512K, 30 MB)	IN STOCK
AT 068 (6MHz, 256K)	2395
IBM PC/XT 2 DR. 256K	995/1395
Mono Display 8503/XT STYLE	189/225
Color Display 8512	439
EGA Disp. 8513/XT STYLE	495/595
Ext. Drive F/PS2 (5¼)	285
Pro Printer II/XL	349/505*
Pro Printer X24/XL24	*519/675
Quiet Writer II/III	**895/1095*
IBM DOS 3.3 (min 5)	85

CALL FOR ALL OTHER IBM PRODUCTS

Quantity Discount Available

Seagate

SEAGATE HARD DRIVES

20 MB/30 MB W/Controller	$259/289
30 MB/40 MB (4038/4051)	385/450
40 MB (ST251)/40 MB (4053)	*349/449
80 MB (4096)/80 MB (277R)	*679/445

MINISCRIBE

40 MB (3650)/40 MB (3053)	$319/535
40 MB (6053) FULL HEIGHT	495
80 MB FULL HEIGHT (6085)	679

HARD CARDS

20 MB/30 MB for XT	$345/399
40 MB CARD F/XT 40 MSC	499
20 MB/30 MB for PS/2	399/435

MISCELLANEOUS

130 MB Maxtor 28Mlsecond	$1495
COMPAQ PORTABLE 20 MB	495
COMPAQ 40/60 MB F/DP386	745/895
10/20 MB IBM HARD DISK	145/195
130 MB COMPAQ HARD DISK	1695

COMPAQ®

DESKPRO MODELS

**386/20 MHz 60 MB HD	$5195**
**386/20 MHz 130 MB HD	6595**
**386/20 MHz 300 MB HD	8295**
386 40 MB 16 MHz Factory	3895
386 130 MB 16 MHz Factory	5495
286 Model 1	1645
286 640K, 20 MB/40 MB HD	2095/2295
286 Model 40 (Factory)	2695
Deskpro 2 DR 256K/20 MB	1095/1395

PORTABLES

***NEW PORTABLE 386/40 MB.	$5395
***NEW PORTABLE 386/100 MB	6699
II Model 4 (Factory/Upgrade)	2595/2395
II Model 2 2dr., 256K (80286)	1895
III Model 20 MB	3375
III Model 40 MB	3895
Compaq Amber/Green	195
COMPAQ Color/VGA Monitor	525/555
COMPAG EGA/VGA ADAPTER	325/425
Compaq DOS 3.3/3.2/3.1	89/79/59

CALL ON MEMORY AND OTHER COMPAQ PRODUCTS

Quantity Discount Available

Dealers & Consultants Only

Corporate & Retail Customers Call For Quotes

intel

8087-3 XT/80287-6 AT	**$87/160
8087-2 XT/80287-8 AT	145/249
80287-10 AT 10MHz	289
80387-16 for 80-386	455
80387-20 Base Systems	725

OKIDATA

182/182S 120 cps, 30 nlq	$229/279
192+/193+ 200 cps, 40 nlq	329/419
ML292E/293E 200 cps, 100 nlq	359/489
ML393/393 Color 450 cps	945/1029
ML294/2410	737/1695
Lazer Line 6	1299

IRWIN TAPE BACK UP

10 MB. Inter./External	$255/379
20 MB. Inter./External	*299/399
40 MB. Inter./External	*379/535

Call for PS/2 Tape Back Up Units

Call for Archive, Tecmar, Sysgen

TOSHIBA

321SL/341AL (216 cps)	$465/645
351-SX/351-2 COLOR	995/1019
TOSHIBA T1000/T1100	729/1450
T1200/T3120	2295/2950
T3200/T5100	3595/4495
TOSHIBA MODEM/COMPATIBLE	279/249

HEWLETT PACKARD

Laser Series II	$VERY LOW
*DESK JET NEW 250 CPS	$679
1 MB F/HP II COMPAT/HP	369
2 MB F/HP II COMPAT/HP	669
HP Plotter 7475A	1395
HP Scanjet Scanner w/ Int.	*1195

NEC

MULTISPEED EL/HD	$1455/2299
MULTISYNC II/PLUS	579/875
MULTISYNC XL 20"	1995
LC860+/LC890	1899/3195
P760/P2200	599/333

LOTUS 1-2-3 $289

LOTUS SYMPHONY 3½" $259

D-DATA

One stop shopping for dealers & consultants
UP TO 2% DISCOUNT ON PREPAYMENT.

STB MULT/F CARD (OK)	$49
DC 1000 TAPES	7
INTEL 8087-3	79
MODEM 1200/2400 BAUD	69/95
IBM MONO/CLR/EGA	79/145/325
INTERDYNE T.B.U. 10/20 MB	75/95

D-DATA
4742 Woodman Avenue
Sherman Oaks, CA 91423
(818) 905-0994 FAX 8189058869

There Will Be A Charge On All Credit Card Purchases. 1% Discount on Pre-payment.

tions asked. Worse yet: they shut down an entire electronic service like the WELL because there is a "drugs" conference online. Such are the dangers if electronic free speech isn't insured.

Stifle It

As corporations take on the medium of electronic communications in a more comprehensive way, they will come to acknowledge that their words, their files, indeed their commerce, are at great risk; ACA 36 will provide protection for that risk.

If this bill is killed, it could kill a great deal of regional, national and international commerce for California companies. What corporation is going to risk the "bottom line" in an atmosphere of uncertainty? I'll tell you how many: zero.

John Coate, who helps run the Whole Earth 'Lectronic Link says: "I agree with Assemblywoman Gwen Moore when she says that ACA 36 would pave the way for the development of a vital and diverse industry in California by granting electronic communicators' rights. California must stay on the cutting edge of technology and the way technology interacts and is used by the people. Communications in research, education and the community is the way we build wealth and community, and by insuring freedom for electronic speech we can cost-effectively create wealth and well-being for the people of the state without putting out a lot of extra tax dollars."

Coate told me that several of the corporations and organizations now using the WELL express concern over the issues addressed by ACA 36. "The best I can tell them is that we insure their privacy from unauthorized access, but when it comes to insuring any more than that, well, I can't give them much. ACA 36 would go a long way in giving these groups the assurances they are looking for."

As corporations take on the medium of electronic communications in a more comprehensive way, they will come to acknowledge that their words, their files, indeed their commerce, are at great risk; ACA 36 will provide protection against that risk.

And what of intellectual and personal "commerce"—the commerce of ideas? With the potential threat of the government being able to mandate how and where and what they can say electronically, and that anything stored online, might be fair game under some kind of "zero tolerance" campaign, how many people are going to freely and willingly, open up and contribute to the electronic landscape? Rather than live in a constant state of being at risk, a great many people will choose to remain silent, their contributions forever mute.

Let Freedom Ring

Those like the CDAA would have you believe that the freedoms granted by ACA 36 are "unnecessary" because such freedoms already exist. That reasoning reminds me of a *West 57th St.* TV segment where the Soviet media darling Vladimir Pozner was interviewed. During the interview he asserted that the Soviet Union, in its constitution, guarantees its people freedom. When asked if it is the same freedom granted by the U.S. constitution, he said, "It guarantees the Soviet definition of freedom."

If the "freedom" of electronic speech already exists, I want to know: whose definition are we using?

Like I said at the top of this column: this is either an epitaph or a campaign platform. If ACA 36 has been defeated by now, lay flowers at the grave of your electronic freedom, and install a floor safe where you lock up your hard disk every night just in case someone comes for it in the wee hours of the morning.

If the bill is on the ballot, watch for "Say No on ACA 36" campaign, take down the phone number, call them and ask about definitions. Then give them yours. And strike a blow for freedom. ☐

TURBO XT COMPLETE SYSTEM
- 4.77/10 MHz System Board
- 8088-2 CPU
- 640K on Board
- AT Style Case (3LED, Reset)
- 150 W Power Supply
- Mono Graphic Printer Card
- TTL Monitor
- Two 360K Drives
- AT Style Keyboard
- 1 Year Warranty

$595

Color System	$ 785
EGA System	$1035

AT 286 10 MHZ SYSTEM
- 8/10 MHz System Board
- 512K on Board (TO 1 MB)
- AT Case
- 200 W Power Supply
- 1.2 MB Floppy Drive
- WA2 FDD/HDD Controller
- Mono Graphic Printer Card
- TTL Monitor
- Enhanced Keyboard
- 1 Year Warranty

FREE SURGE PROTECTOR with Purchase of AT SYSTEM

$869

Color System	$1049
EGA System	$1299

40 MB EGA 386 COMPLETE SYSTEM
- 80386 Microprocessor
- 32 Bit-16 MHz
- 1 MB Ram Installed
- 80387 Co-processor Socket
- 1.2 MB Floppy Drive
- 40 MB Hard Drive
- WA2 FDD/HDD Controller
- EGA Card
- EGA Monitor
- AT Case w/Key, LED, RESET
- 200 W Power Supply
- 101 Enhanced Keyboard

$2960

HARD/FLOPPY DRIVES

Seagate ST225 20MB w/CTR	$269
Seagate ST238 30MB w/CTR	$285
Seagate ST251 40 MB	$385
Seagate ST251-1 40 MB	$450
Seagate 4096 80 MB	$850
MiniScribe 40MB (3650)	$325
Teac 360K/1.2 MB	$79/$95
Fujitsu 360K/1.2 MB	$69/$87
1200 B Modem/Software	$ 95
2400 B Modem/Software	$159

GENIUS MOUSE $53

MONITORS

Sony EGA Monitor	$565
Samsung Amber w/Swivel	$ 74
Samsung CGA	$245
Samsung EGA	$360
Mitsubishi Multisync	$485
NEC Multisync	$545

PRINTERS

Panasonic 1081 i II	$185
Star NX1000	$195
Epson	CALL

22 FWY. · McFADDEN · LILAC · EDINGER · HARBOR · IIT · 405 FWY

IIT COMPUTER
16040 Harbor Blvd., Suite M
Fountain Valley, CA 92708

(714) 775-8126
Sales • Service • Repair
We Accept MC/Visa & Mailorder
DEALERS: Call for quantity pricing. Prices subject to change without notice.

MICROLAN

FORMERLY ADVANCED PC PRODUCTS

ADVANCE TO THE LAN!

MICROLAN 386 SYSTEM

$2580

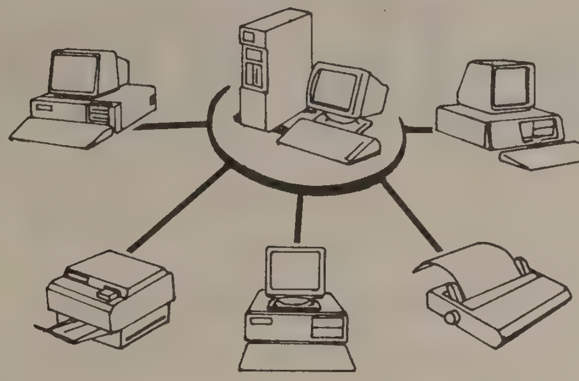
COMPLETE SYSTEM
386 Motherboard 16 MHz
200W Power
101 Enhanced Keyboard
2 MB RAM on board
1.2 MB Floppy Drive
FD-HD Control Card
Monographic w/printer port
Hi Res Monitor
Tower Case

We carry
ARCNET
ETHERNET
OMNINET
LAN CARDS

NOVELL

286 / 2.0a 100 WORKSTATIONS
286 / NONDEDICATED
86 / 100 WORKSTATIONS
86 / 8 WORKSTATIONS

Accessories:	
Internal Modem 1200 BD	$ 85
External Modem 1200 BD	$105
Internal Modem 2400 BD	$165
External Modem 2400 BD	$185
Logitech Mouse	$75



Connet your systems with Novell and Microlan 386

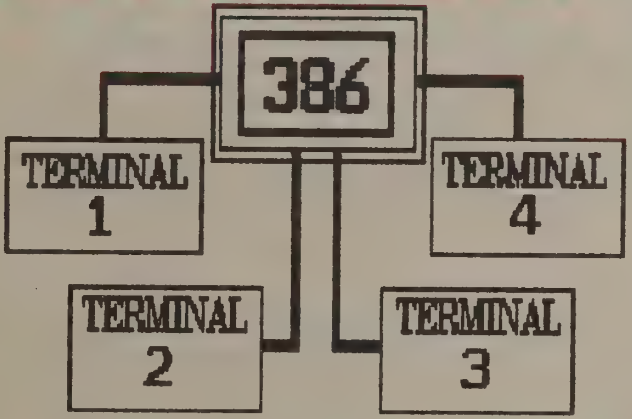
We are the NOVELL specialists

NOVELL

Call us for the BEST price

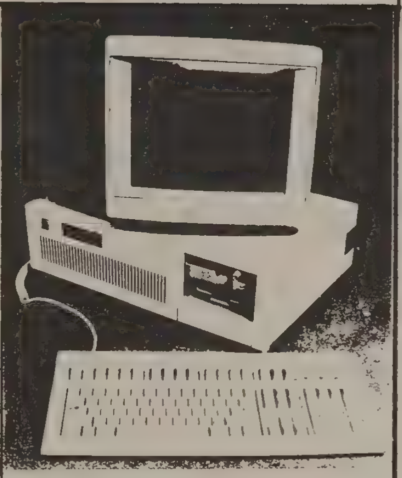
Pay Micro Price
Get Mainframe Power

UNIX 386 SYSTEM



UNIX UNIX UNIX

WELLCOME TO SEE OUR DEMONSTRATIONS
AND INQUIRE OF OUR PRICING



TURBO 286 SYSTEM:

$855

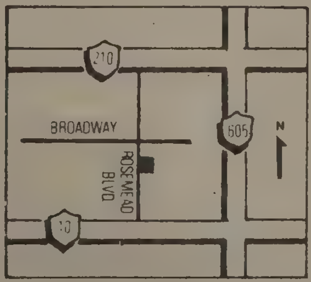
Complete System
6/10 MHz 80286 Motherboard
512K RAM
1.2 MEG Floppy Drive
Floppy Controller Card
Monographic card w/printer port
Hi Res Monitor
200 W Power Supply
AT Style Keyboard
AT LED Case

XT TURBO SYSTEM:

$585

Complete System
4.77/10 MHz Motherboard
512K RAM
Floppy controller Card
360K Floppy Disk Drive
Monographic card w/printer port
Hi Res Monitor
150 W Power Supply
AT Style Keyboard
AT Style LED case

Monitor:		
Taxan Color		$295
Taxan EGA		$395
Samsung TTL		$ 72
Samsung EGA		$355
Printer:		
Panasonic 1081i		$190
Panasonic 1091i		$215
Hard Disk:		
Seagate-225	20 Meg	$230
Seagate-4096	80 Meg	$880

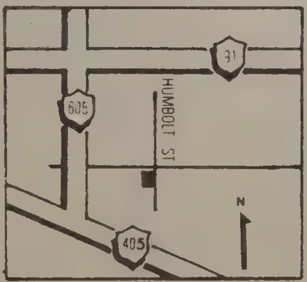


SAN GABRIEL VALLEY:

5220 N. Rosemead Blvd., #A,
San Gabriel, CA 91776
Tel: (818) 285-7560

ORANGE COUNTY:

10529 Humbolt St.,
Los Alamitos, CA 90720
Tel: (213) 493-2516



Microlan

Hapless Installs XENIX

By Bennett Falk

Hapless got the bad news about 3:30 in the afternoon and really wasn't quite the same for the rest of the day. When he got off work, he moped down the block and headed straight for "The Sign o' the Pipe," one of the UNIX bars that have sprung up along Hollis Street in Emeryville. At the bar he ordered a Calistoga and some Beer Nuts. He sat for a while, staring at the bar and distractedly peeling the label off the mineral water bottle. From across the room a vaguely familiar voice called out: "Hey, Hapless, man, wha's happenin'?"

In a back corner some truckers, who hadn't quite figured out where to go now that the computer crowd had taken over their bar, looked up from a game of eight ball, nudged each other and made some rude remarks.

Hapless looked around and saw a group of UNIX gurus sitting at a table. One of them beckoned him to join them, and though Hapless was introduced all around he quickly forgot everyone's name.

"So, what's up with you?" somebody asked.

"Well, it's XENIX," Hapless began. Around the table several pairs of eyes rolled heavenward. "You see, a couple of weeks ago, I bit the bullet and bought a new computer just to have a UNIX system at home.

"I went to the computer store in my neighborhood and ordered up the Wyse 386 machine with 2 MB of memory, a 70 megabyte hard disk, an Irwin tape drive, a Microsoft mouse and a color monitor with a VGA adapter. Then I bought a copy of the SCO XENIX 386 development system from a mail order software house."

"Wasn't it awfully risky to buy things from different vendors?" someone ventured.

Hapless tried to act nonchalant: "Well, at the time, I didn't think so. These machines and their accessories are supposed to be pretty much standard."

"I don't know," the guru replied. "I've seen the SCO documentation and they devote a lot of space to describing the hardware options they're compatible with."

"Yeah, I know. Anyway, before long everything arrived and I sat down to plug in all the peripherals and install XENIX.

The voice of optimism: "Once XENIX has been booted from the hard disk, another installation program supervises the loading of the rest of the XENIX software. What could be easier?"

"The monitor, keyboard, and mouse were no problem. I booted DOS just to check out all the hardware. The Wyse comes with a nifty version of DOS 3.2 that can use hard disk partitions larger than 32 MB, so the vendor had given it one 70-MB DOS partition. Everything seemed to be in working order, and the people at the store had installed on the hard disk all the software supplied with the mouse and the VGA card."

Bored looks were exchanged among some of the gurus present, but Hapless didn't notice.

"Anyway, I needed to clear some space on the fixed disk for XENIX, so I ran 'fdisk' to delete the DOS partition."

Someone across the table peered over wire-rim spectacles at him: "You didn't back it up first?"

"Of course not. I mean, what would be the point? I don't want to run DOS, I want to run XENIX."

"Well, what if something went wrong during the XENIX installation? At least you could put the DOS software back easily."

Hapless blushed. Another guru, the Voice of Reason in a red flannel shirt, covered the embarrassed silence that followed: "Well, as I understand it, the XENIX installation procedure is really very easy: a bootable installation floppy ("N1") goes in drive A: and the system is restarted.

"From that point on, an installation program takes over and creates a partition for XENIX on the hard disk, builds filesystems on that partition, and moves over just enough software to make a runnable system on the hard disk. Once XENIX has been booted from the hard disk, another installation program supervises the loading of the rest of the XENIX software. What could be easier?"

A grizzled-looking guru piped up, "I recollect that the hard disk setup is a little more complicated than that. First the program displays info about the fixed disk it thinks you have and asks if you want to change anything. After that a XENIX partition is created on the hard disk, then another program looks for any bad tracks on the partition and lists them in a bad track table, and then the swap area and the filesystems get set up.

"At each step a different menu is put on the screen that has some numbered choices, and you can either pick one of those or type 'q' to quit. Well, everybody knows that 'quit' means quit, and I must have fidgeted with the first menu for 45 minutes before I figured out that you had to type 'q' to get to the next step."

"He never was too bright," someone whispered to Hapless.

Another voice chimed in, "You know, I once installed XENIX on an AT clone that hadn't been set up right, and when it came time to find the bad tracks, it found so many it couldn't allocate a big enough table to log them all. It turned out that the disk info it was reading was all wrong because no one had run a setup utility that was supposed to identify the hard disk correctly. I guess we could have figured that out from the display of disk info that comes up at the start, but nobody knew what values were correct."

The grizzled veteran picked up the thread again: "And once you get the fixed disk partitioned, it has to be mounted as a file system before any software can be copied over to it. 'Course, the installation program takes care of all that, but I remember installing XENIX once a long time ago when the mount failed, and the installation program tried to copy its contents into one of its own subdirectories."

Everyone seemed amused by this, so Hapless laughed politely.

"Of course, the XENIX installation floppy isn't writable, so it didn't really hurt the floppy disk one bit, but it sure did put up a mess of error messages. And then there was the time..."

Another guru interrupted this reminiscence,

Copyright © 1988 by Bennett Falk. Bennett Falk lives in the Bay Area and works for Sybase, Inc. He writes whenever he can and hopes for the best.

MicroTimes circulation is over 132,000 copies per issue. And our BPA Audit confirms it.

The circulation you get in **MicroTimes**, the nation's largest regional computing magazine, has been verified by the industry's leading auditor of business pubications, **B**usiness **P**ublications **A**udit of Circulation, Inc.

The **BPA Audit** gives you an even greater confidence in your decision to advertise in **MicroTimes**. We're proud to give you this independent, written guarantee of our circulation.

Thanks for your business.

California's Computer Magazine
MICROTIMES.

BAY AREA OFFICE
5951 Canning St.
Oakland, CA 94609
(415) 652-3810

SAN JOSE OFFICE
36 Harold Ave., Suite 8
San Jose, CA 95117
(408) 244-4400

LOS ANGELES OFFICE
1800 N. Highland, Suite 220
Hollywood, CA 90028
(213) 467-7878

ORANGE COUNTY OFFICE
800 S. Brookhurst, Suite 1F
Anaheim, CA 92804
(714) 776-2900

At Last, Affordable Multiuser Systems!

3 Users (System & Software)

$3900

Main Console

12 MHz Turbo AT System

- 12/6 MHz 80286 AT Motherboard
- 1.5MB RAM on board
- 40 MEG Seagate 252-1 (28 ms) Hard Disk
- 1.2 MG Fujitsu Floppy Drive
- 15" Thomson Dual Frequency Amber Monitor
- Monochrome-graphics-display card
- Key tronic 101 Enhanced Keyboard
- 2 Serial Ports, 2 Parallel Ports
- Hard/Floppy Controller

Multiuser Operating System

"SCO Xenix 286 Operating System"

"The SCO XENIX Solution" offers you the opportunity to create complete multiuser systems that span the range from PCs to mainframes, with more power, better price performance, and greater shared information and resource capabilities than ever before.

- It allows you to interface up to 16 terminals by a simple serial port connection between the terminal and any other PC.
- You can run up to 12 applications on the same console.
- This is a TRUE MULTIUSER/MULTITASKING SYSTEM without the worries or expenses of networking.
- You also get 3 MONTHS OF DIRECT SUPPORT THRU SCO (Santa Cruz Operation)

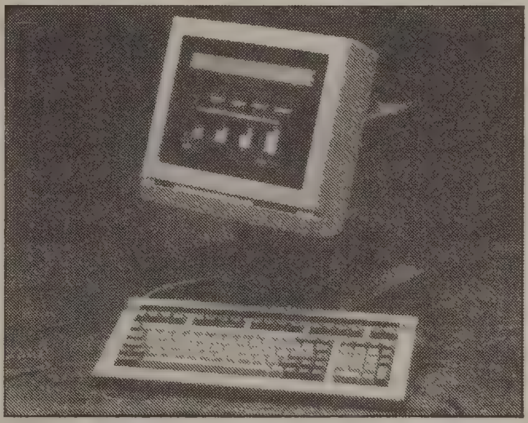
WorkStation

(Qty. 2)
WYSE 60 Terminal
A Powerful Tool for Sophisticated Applications

The WY-60 represents Wyse's most powerful, versatile, and user-friendly terminal, designed to meet existing and emerging needs in the PC terminal market.

Includes:

- High resolution characters
- Superior keyboard touch & layout
- Standard tilt/swivel base
- Optional height adjustable arm
- Choose green, amber, or paper-white screens



Installation and Training Available

XENIX Application Programs

- **SCO LYRIX** **$475**
  Word Processing for XENIX/286 and XENIX/386
- **SCO PROFESSIONAL** **$595**
  1-2-3 Workalike for XENIX/286 and XENIX/386
- **SCO FOXBASE +** **$595**
  dBASE III Workalike for XENIX/286 and XENIX/386
- **SCO FOXBASE + RUNTIME** **$235**
- **SCO MULTIVIEW** **$345**
  Windowing environment for XENIX/286 and XENIX/386

AND MUCH MORE!!

386 Main Console Upgrade and Operating System Available - Please Call. Call for other options and available parts. Come in to our showroom for a **FREE** demonstration.

FINANCING AVAILABLE

Prices subject to change without notice.

VALERIO ENTERPRISES
18341 Sherman Way Ste. 104-F
Reseda, CA 91335
(818) 343-1038
(818) 609-0535
(See our system ad on page **24**)

"What did happen, Hapless? Did you get your XENIX installed all right?"

"Uh, no. I put the N1 floppy in drive A: and rebooted like you said, and I got the ROM BIOS sign on message and a display from the memory check. There was activity on drive A: and a message appeared:

Boot

:

"I pressed return and there was a message from XENIX saying it was booting from device fd(52). I guess that's the floppy drive. Then there were several seconds of disk activity after which the screen flashed once and was redrawn in large low-res characters.

"The system was dead, and I used every combination of keystrokes I could think of to resurrect it, but nothing worked. I went through the whole thing twice more with the same results.

Everyone around the table had suddenly become interested in Hapless' story.

"That's really odd," someone said.

"Yes. After the informational message about what drive you're booting from, you should see a copyright message and a hardware diagnostic that tells you what's installed. You're not even making it to the copyright message. Wow."

"I know," said Hapless. "And the screen doesn't ordinarily flash reverse video either. I thought the problem might be the display adapter, so I pulled the VGA card out, adjusted its switches for every emulation it was capable of, and rebooted. The visual symptoms changed a little from mode to mode, but the bottom line was always the same: XENIX refused to boot.

> **"I thought the problem might be the display adapter, so I pulled the VGA card out, adjusted its switches for every emulation it was capable of. XENIX refused to boot. Tech support said my VGA card must be the problem."**

"Of course, this happened on a weekend, and technical support at SCO operates Monday through Friday, so I had to content myself with making a 5MB DOS partition and running arcade games at warp speed."

"I told you you should have backed up that DOS partition," the bespectacled guru chided.

"Anyway, today I called technical support and when the analyst called and heard the symptoms she said that the VGA card I've got must be the problem. The trouble is, I don't know what to do. I'm beginning to feel like I've wasted a lot of money on stuff that's not compatible."

After a moment's silence, the guru in the red shirt asked, "Is there any chance we could test this installation some more?"

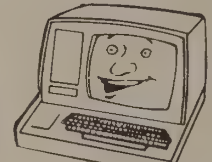
"Sure, why not? When do you want to look at it?"

"How about right now?" the guru ventured, and when Hapless mumbled his assent, they all sprang in action putting on jackets, settling up their bar tab and looking for the keys to the microbus. They detoured by the gurus' lab to pick up a bulky box that Hapless guessed was a monitor.

As they drove on, the red flannel guru explained: "I'm not sure what the problem is with the VGA card you have, but XENIX runs just fine with the Compaq color card, and I think that's VGA compatible, so it's reasonable to suspect that other cards will also work. Anyway, we got this new monitor and card the other day and haven't had a chance to check them out."

When they arrived at Hapless' place, he noticed that the monitor they lugged in was a Zenith Flat Tension Mask Color Monitor with a Z-449 card. While some of the gurus unpacked the monitor, Hapless demonstrated the problem he had described earlier for the rest of them. Everyone agreed that Hapless was indeed having a problem and, brandishing screwdrivers, they removed the cover from his computer and set about replacing the display adapter.

Within minutes everything was connected. Hapless inserted the N1 floppy and turned on the power. For a few seconds there was no sound other than the hum of the computer's fan and the whir of the floppy disk drive, but when the screen cleared and the SCO XENIX copyright message appeared, polite applause filled the room. The rest of the installation went without a hitch. ☐



East West Computer Shows & MicroTimes PRESENT THE FOLLOWING

COMPUTER SHOWS & SALES

Saturday 6/25
Ventura Computer Show & Sale
Ventura County Fairgrounds
(Going N. exit California St. off Hwy 101
Going S. exit Ventura Ave. off Hwy 101)

Saturday 7/9
Glendale Computer Show & Sale
Glendale Civic Auditorium
1401 N. Verdugo Rd.
Hwy 134 to Glendale Ave. exit
Turn north—go one mile

Saturday 7/30
Ventura Computer Show & Sale
Ventura County Fairgrounds
(Going N. exit California St. off Hwy 101
Going S. exit Ventura Ave. off Hwy 101)

Saturday 8/6
San Diego Computer Show & Sale
San Diego Scottish Rite Center
I-8 to Mission Center/Texas St. exit,
left on Camino del Rio South

TREMENDOUS SAVINGS

East-West Computer Shows
(formerly Golden Gate Shows)
CALL FOR INFO: (415) 388-8893

ALL SHOWS 10-5PM
Admission $5.00
Kids 12 & under FREE

What's Happening?

Check the MicroTimes Calendar of Events in this issue for computer-related classes, seminars, and shows in your area.

FUJITSU DL 2400 and DL 5600

DL 2400
- 216 cps draft - 72 cps LQ
- 24 wire dot matrix
- 16 character LCD panel
- Parallel and serial interface
- Quiet (53dBA)
- Single, double, triple-bin cut sheet feeders available
- Emulates IBM Graphics/Diablo 630 API
- Available in color

Call for price

DL 5600
- 24 wire dot matrix/24K buffer
- 486 cps draft - 162 cps LQ
- Handles 8 part forms/copies
- MTBF - 8000 power-on hours
- Emulates Diablo 630 API, IBM Graphics Printer and IBM Proprinter XL
- Serial and parallel interface
- Available in color
- 16 character LCD panel

Call for price

Cypress Distributing Company

(Outside CA) 1-800-344-3044

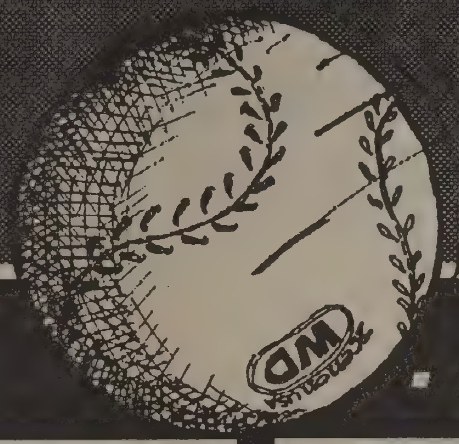
560 Lincoln Avenue
San Jose, CA 95126
(408) 297-9800

22186 Rim Pointe
El Toro, CA 92630
(714) 770-7244

2670 Truxel Road
Sacramento, CA 95833
(916) 646-1955

Datasouth 10 Net Century Data Systems Ampex
Personal Computer Products Panasonic Seikosha C Itoh
Moniterm Star Micronics Mitsubishi Rutishauser Canon

Xenon USA (714) 250-4438 • FAX (714) 250-4513



Dealers—Play Ball With Major League Products *and* Home Run Prices!

. . . Our Player Line-up

Hard Disk Drives

CDC
Micropolis
MiniScribe
Rodime
Seagate
Western Digital

Floppy Disk Drives

Fujitsu
Mitsubishi
Panasonic
Teac
Toshiba

Controllers

Data Technology (DTC)
Future Domain
Perstor
Seagate
Western Digital

Computers

Acer
Compaq
CSS
DTK
IBM
Mini-Micro
Mylex
Toshiba
Western Digital

Monitors

Compaq
IBM
Mini-Micro
NEC
Packard-Bell
Quimax
Samsung
Sceptre
Taxan

Printers

Brother
Citizen
Epson
Hewlett-Packard
IBM
NEC
Okidata
Panasonic
Toshiba

Add-on Cards

CGA/EGA/VGA
Monochrome
Parallel/Serial
Game
Multi I/O
Disk I/O
Multifunction
Memory Expansion
Motherboards

Tape Drives

Archive
Irwin
Colorado Memory
Western Digital

Networks

Western Digital
Standard Micro Systems
LAN/Ethernet/Arcnet
Cables/Terminators

Miscellaneous

Power Supplies
Cases
DOS
Modems
Keyboards
Cables
Chips

Call the Xenon sales team for details and prices.

Seagate

ST4096 Special!

Half Height 5 1/4-inch Hard Drives (MFM & RLL)
20, 30, 40 and 65 Megabyte ST225, 238R, 251, 251-1, 277R

Half Height 3 1/2-inch Hard Drives (MFM, RLL & SCSI)
20,30 and 49 Megabyte . . . . ST125, 138, 157 Series (40 Ms)

Full Height 5 1/4-inch Hard Drives (MFM, ESDI & SCSI)
20, 30, 44, 80 and 122 Megabyte ST4026, 4038, 4053, 4096, 4144R

Xenon *is your*
SUPER VAR for Seagate & Western Digital.
Call for FREE price list.
Warranty: All Seagate products carry a 12-month warranty.

Xenon is a Super VAR distributor of Seagate, *WESTERN DIGITAL* and other computer peripherals. We have all Seagate 20 to 122 Mb drives; 5 1/4- and 3 1/2-inch drives and *WESTERN DIGITAL* controllers in stock.
Check our stock of hard disk drives—up to 383Mb!
Monday thru Friday 9-5:30. Computer Dealers, OEM's and Resellers Only.

Xenon USA 17795-F Skypark Circle Irvine, CA 92714 (714) 250-4438

Desktop Publishing On The ST

By David Hawkins

New desktop publishing products are starting to show up for the Atari ST. I've spent the past month learning and using *Timeworks Desktop Publisher ST*. I've been very impressed with it — it has made studying desktop publishing easier than I expected.

Setting Up A Desktop Publishing System

I'm using a 1040 ST at home. This gives me enough memory to load in a couple of fonts for screen displays and for printing. *Timeworks* will run on a 520 ST, but you would need to be careful to clear out as much memory as possible. If I were buying a system for desktop publishing I'd get a Mega 2 or 4.

You can use either the monochrome or color monitor with *Timeworks*. The added clarity from the monochrome monitor helps a lot when you are trying to get the details right. The illustrations for this article are screen dumps from the monochrome monitor.

Timeworks supports a wide variety of printers. I did several printouts with a 9-pin dot matrix printer, and it produced fonts and graphics good enough to photocopy and distribute to friends and relatives. For professional distribution I'd use a laser printer or a 24-pin dot matrix.

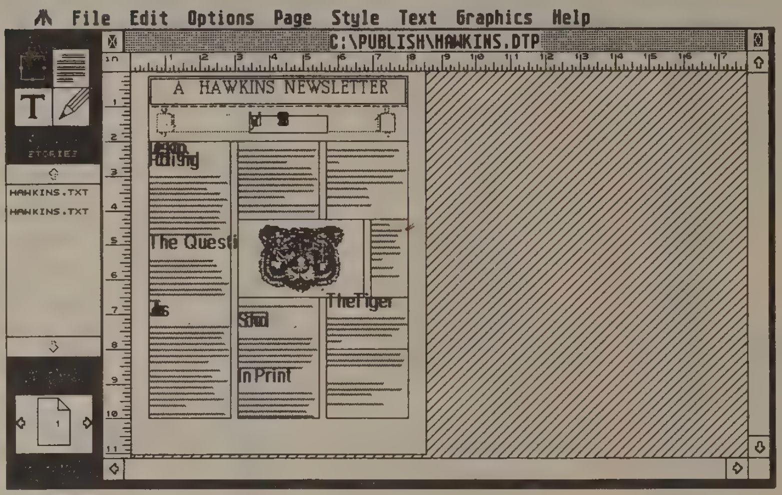
If you have a 520 or 1040 ST, you can use any PostScript compatible printer (LaserWriter or LaserWriter Plus), the Hewlett- Packard LaserJet Plus or II, and other compatible printers. If you have a Mega 2 or Mega 4 then you can use the Atari Laser printer.

If you have the ST, but don't have the printer, you can create the document and then find someone to print it for you. Some Atari dealers (like Microworld in Berkeley) have a Mega and a laser printer setup and can print for you at a reasonable cost. Other dealers (like PC Options in San Francisco) can line you up with people who will print for you. This is what I'll be doing until I can save up for a Mega 2 or 4.

Setting Up Timeworks

It is possible to run *Timeworks* on a system with just one single-sided disk. It's a little more manageable when you have two disk drives. I'm using a hard disk, which is the optimal way to go.

Timeworks is not copy protected, so you can make backup copies, as well as install it on a hard disk.



Timeworks Desktop Publisher ST supports a sophisticated range of options and allows even the novice user to put attractive documents together in a few hours.

Timeworks comes with an INSTALL program, which simplifies the installation process. The manual includes adequate explanations of the installation procedure, as well as clear directions.

Using Timeworks

The manual features a program overview that explains the icons and terms that are used in the program. From there it goes into a "mini-manual" that uses a sample document to show what the program can do. It describes how to show, add to, format, save and print the document, plus how to manipulate graphics.

This was how I got started. I followed the instructions and found that the process was easy and clear. So I took the sample document and converted it into a "Hawkins Newsletter" (showing a clear lack of imagination in inventing titles).

Timeworks has several types of display. You can look at a page that is sized to fit so that it can be examined for overall layout, or as normal size, or doubled in size. In some of the sizes you can't read the text, but you can see what the overall effect of the design is going to be. Working in normal or double size allows you to check and fix the fine details.

The Text

I wrote the text to be used with *WordUp* (described in last month's column) and saved it as ASCII. When I started the "Hawkins Newsletter" I read it into *Timeworks* and had it flow into the frames I'd created for text. I tried using a couple of different fonts in the text, but found that the books and manual were right: it looks better if you only use one or two fonts in the entire file.

Graphics

Timeworks can use pictures from *DEGAS*, *Neochrome*, *GEM Draw*, *Easy Draw* and some other art programs. The tiger drawing is part of the sample artwork provided with *Timeworks*. The program gives you the option of changing the scale to make the art fit the frame for it, or show it in true perspective. I left the tiger in true perspective, shortened the width of the frame and added a frame with a quote to the right of the picture.

Where To Next?

Within a few hours I had created a one-page newsletter to mail out to family and friends. I also had learned enough about the program to know that I'd just barely touched its capabilities. *Timeworks* can create master pages, which make it easier to do multi-page work. It has a number of hyphenation and justification options that I didn't use. Right now I'm looking for a few more ambitious projects to do using *Timeworks*. It's going to be fun!

A Game To Avoid

Shadowgate is the biggest waste of money I've made this year. I almost mentioned that in last month's column, but decided to give it a few more tries. It's basically an unplayable game. ICOM and Mindscape will gladly sell you a hint book, but it didn't help me either. Everyone I've found who finished this game had to get help by having another person sit down and show them how to get certain things done. (People who have played *Shadowgate* are very helpful and encouraging, but the game isn't advertised as a team project.) The game lacks logic and the graphics aren't worth the $50. ☐

David Hawkins is the host of the Atari conference on The WELL (415/332-6106); send email to dhawk. He can also be reached as David Hawkins on the Guild (415/771-7062). He has one of the first Atari ST 1040s sold in San Francisco, both monitors, an Okimate 20 color printer, and disks all over the room.

ATARI®

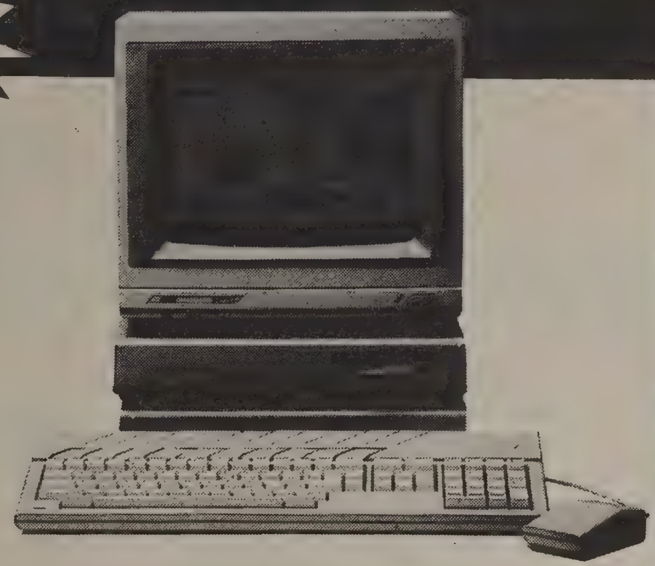
Power Without the Price™

LOWEST PRICES

TRADE IN YOUR 1040 ST AND GET A . . .

MEGA 4 . . . . $\$1{,}699^{95}$

MEGA 2. . . . . $\$999^{95}$



THE ATARI MEGA COMPUTER
THE BETTER BUSINESS DEAL.

YOU MUST BRING IN THIS AD TO GET THESE PRICES

XEP-80 80 col. card for 8 bit ATARI $\$59^{95}$

XMM-801 Printer for 8-bit ATARI $\$179^{95}$

520 ST with Hi Res Monitor $\$699$

LARGEST SOFTWARE SELECTION IN THE VALLEY

ST IMPORTS

Imported ATARI ST Software From France, England, & Other Countries

TOP 12 IMPORTS	Reg.	SALE
Trivial Pursuit	$39.95	$\$33^{95}$
Scruples	$39.95	$\$33^{95}$
Rampage	$39.95	$\$33^{95}$
Xenon	$39.95	$\$33^{95}$
Tetris	$39.95	$\$33^{95}$
World's Greatest Epyx	$59.95	$\$49^{95}$
Indiana Jones	$39.95	$\$33^{95}$
Masters of the Universe	$39.95	$\$33^{95}$
IKARI Warriors	$39.95	$\$33^{95}$
Predator	$39.95	$\$33^{95}$
SuperSprint	$39.95	$\$33^{95}$
Outrun	$39.95	$\$33^{95}$
Gauntlet II	$39.95	$\$33^{95}$

YOU SAVE 15%

ATARI ST SOFTWARE

The BEST in DOMESTIC Software

	Reg.	SALE
Carrier Command	$44.95	$\$35^{95}$
Obliterator	$39.95	$\$31^{95}$
Wizball	$19.95	$\$15^{95}$
Top Gun	$9.95	$\$7^{95}$
Midi Maze	$39.95	$\$31^{95}$
Barbarian	$39.95	$\$31^{95}$
Flite Simulator II	$49.95	$\$39^{95}$
Star Trek	$39.95	$\$31^{95}$

YOU SAVE 20%

BUSINESS SOFTWARE SPECIALS

WordWriter ST	Reg. $79.95	SALE $\$59^{95}$
Data Manager ST	Reg. $79.95	SALE $\$59^{95}$
Swift Calc ST	Reg. $79.95	SALE $\$59^{95}$
Publisher ST	Reg. $129.95	SALE $\$97^{95}$

YOU SAVE 25%

GRAPHICS/CAD

Ask for these NEW Software Selections and Prices

CYBER PAINT 2.0
VIDEO TITLING DESIGN DESK
MACRO MOUSE
SHADOW
CYBER VCR
CARTOON DESIGN DESK
3D FONTS II

Call for info on our ST Beginner's Classes

WE CARRY A COMPLETE LINE OF PUBLIC DOMAIN SOFTWARE

DRAFIX

Packages for CAD Available— Complete Line

FONTS Available for Publishing Partner CALL

LASER PRINTOUTS

- Publishing Partner $^\$1$ each
- WordWriter W.P. 50¢ each ($5 min)

WE BUY USED ATARI HARDWARE AND SOFTWARE

LOGICAL CHOICE FOR COMPUTING

6116 Lankershim Blvd.
No. Hollywood, CA 91606

Authorized ATARI Business Center

Hours: M-Sat 11-7

(818) 760-0738

Infinity BBS (818) 760-0943

The Amiga Matures

By Matthew Leeds

Computers are like fine wine. A new vintage is a little rough around the edges. It lacks a good base of hardware and software to fulfill its promise, to round out its potential. Over time, hardware and software vendors take the measure of a new computer, examine its capabilities, understand how to create products that bring its unique qualities to the surface.

Some computers never get to this point. They don't survive the initial period of developer experimentation and consumer uncertainty.

For some the watershed point comes when the installed base of machines gets to a certain number. For others it is when the library of software available grows beyond a certain point. And for a few it is when hardware developers begin to compete with the parent company for market share with peripherals.

Regardless of how you measure the success of the Amiga, one thing is certain: it has matured. No longer is it possible for a corporate or industrial computer user to be concerned over the Amiga's stability, breadth of applications or future growth.

The installed base of Amigas passed 500,000 a long time ago. Current estimates are now in excess of 600,000. (The Mac was considered a success at 500,000; it has now passed 2,000,000.) The Amiga should pass 1,000,000 this year, and, given Commodore's marketing, in the next few years we may see sales in excess of the C64's 6 – 8 million.

The current library of software titles for the Amiga has passed 1,000. Spreadsheets, databases, word processors, graphics and video applications; desktop publishing, music and educational programs are all available in abundance. New vendors are continuing to enter the Amiga market. Sun Microsystems' TOPS division has started on an Amiga version of its networking product, Magni Systems has created a broadcast quality video graphics board for the Amiga 2000, and Commodore has announced that it's developing both System V and BSD versions of UNIX for the Amiga in support of the 68020/68881/868885 board.

Commodore has also matured as a company. There was a time when rumors of Commodore's imminent demise were rampant. Not a week passed that someone did not call me to confirm Commodore's entry into bankruptcy. Now, with two solid years in the black and a stable management team in place, Commodore is well positioned to offer not only the best home and educational computer, but to provide a meaningful alternative to the high priced workstation systems offered by others. To paraphrase the automobile ad, "have you looked at an Amiga lately?"

With two solid years in the black and a stable management team in place, Commodore is well positioned to offer not only the best home and educational computer, but to provide a meaningful alternative to the high priced workstation systems offered by others.

New Disk Drives

One of the nice things about owning an Amiga in a maturing market is that hardware gets cheaper. The increasing installed base encourages third party hardware developers to offer alternatives to products produced by Commodore. Nowhere is this more evident than in the floppy drive market. At least eight companies are currently offering internal and/or external floppy drives for the Amiga. I recently had the opportunity to test two external drives from Surfside Components International and Megatronics.

Each of these drives has several advantages over the A1010 from Commodore. They are physically smaller, with a much lower profile, and only a slightly longer case. They have a much longer connecting cable. This is especially important for A500 users, as the cable on the A1010 can restrict the placement of an external drive. Both drives use less power than an A1010. This may let you use two external drives on an A500, although this practice is not recommended.

Both the Master-3A from Surfside and the AIRdrive from Megatronics have spring loaded gates that close when a floppy disk is not in the drive. This keeps dust and other contaminants out, and makes it easier to tell if a disk is in the drive.

There are minor differences between drives. The Master-3A has a black faceplate that may not be attractive to someone who wants to maintain the Amiga's off-white color scheme. The AIRdrive is slightly smaller, but its cable is about two inches shorter than the Master-3A. The AIRdrive has an unusual setup for its activity LED. It does not come on and stay on during drive access, but flickers as the drive head steps across the disk. This can be disconcerting at first, but it may be more informative to some than a steady on signal.

Both are much quieter than a standard A1010. They also come with a full one year warranty instead of Commodore's 90 days. And they sell for less.

Report From The Road

I recently returned from two weeks of traveling that included attending the 3rd Amiga Developers Conference in Washington D.C. and COMDEX in Atlanta. A tremendous amount of information regarding new products, new directions and new marketing plans was discussed at each event, and there is no way I can cover anything but the highlights of each here.

By the time you read this, Commodore will have begun to supply developers with limited numbers of the new Fatter Agnus chip. This expands A500 and US Amiga 2000s (B2000) to a full megabyte of chip RAM. The upgrade requires modifications to the motherboard of each machine, and although it can be performed by anyone with a moderate amount of experience in such things, it most likely will be considered a dealer upgrade when it is finally offered to end users later this year. The Fatter Agnus upgrade will likely include a new Kickstart ROM V1.3.

At a later date a complete set of chips called the Enhanced Chip Set (ECS) will be offered. This chip set will include the Fatter Agnus, a new Denise, and a new Gary. The ECS will add in addition to the one megabyte of chip RAM a new display mode, Superhires. Superhires provides a 640X400 non-interlaced display in four colors. You will need a monitor that can handle a 31.5 MHz output such as a multi-sync monitor. Additional new features will include larger blits, the capability of adding a co-processor to the blitter, and other graphics improvements. Along with the ECS will come a new operating system, V1.4.

Next month I'll take a look at other Commodore announcements, and new products coming for the Amiga. ☐

Matthew Leeds has been involved in the high tech field since he blew up his bedroom playing with a children's chemistry kit. He has been using Commodore computers since 1982 and has a strong interest in photography, video, graphics and related fields. He currently works for Infinity Software.

12 Yrs. In Orange County

"USER FRIENDLY DEALER"

Concord Computer Products

APPLE
IBM
LEADING
EDGE
REPAIR
FACILITY

714-632-6790 • 800-435-0907

Quality Without Cutting Corners

SPECIAL SALE ITEMS

Epson LX800 Printer	$215
1200 Baud Modem	.75
AT Style Keyboard	.50
Enhanced Keyboard	.58
XT 2MB Expansion Card	.79
EGA Multisync Monitor	.535
WA2 For AT	.125

AT Turbo Bare Bones System

- 6/10 MHz Motherboard w/BIOS
- Assembled in case
- 200 Watt Power Supply
- Fully tested & burned in
- Complete the system yourself.

$679
w/ 512K

Low Cost AT Turbo 10 MHz

- Japanese RAM
- 6/10 MHz
- Battery/clock/calendar
- TEAC Drive
- 20 MB Seagate Drive
- Western Digital Controller
- 200 W Power Supply
- Herc. compatible graphics card
- Hi-res. TTL Monitor
- Parallel/printer port
- Keyboard
- Cabinet
- Free Training
- 1 Year Limited Warranty

FREE SOFTWARE

$1295
w/ 512K

FREE SURGE UNIT WITH CASH PURCHASE

80386 16 MHz SYSTEM

- Intel 80386 Microprocessor
- 4 Speed Software Select 4.77/6/8/16 MHz
- 1 MB on Board
- 1.2 Floppy Drive
- 20 MB Hard Drive
- Expandable to 2 MB
- Socket for 80287
- 80387 Capability
- Monograhics Card with Printer Port

$2395

FREE SURGE UNIT WITH CASH PURCHASE

XT COMPATIBLE SYSTEM

- 640K on Mainboard
- 4.77 MHz
- 8 expansion slots
- Floppy Drive w/ controller
- Herc. comp. graphics card
- 150 Watt Power Supply
- AT Style Keyboard
- 1 Year Limited Warranty

$645

FREE SURGE UNIT WITH CASH PURCHASE

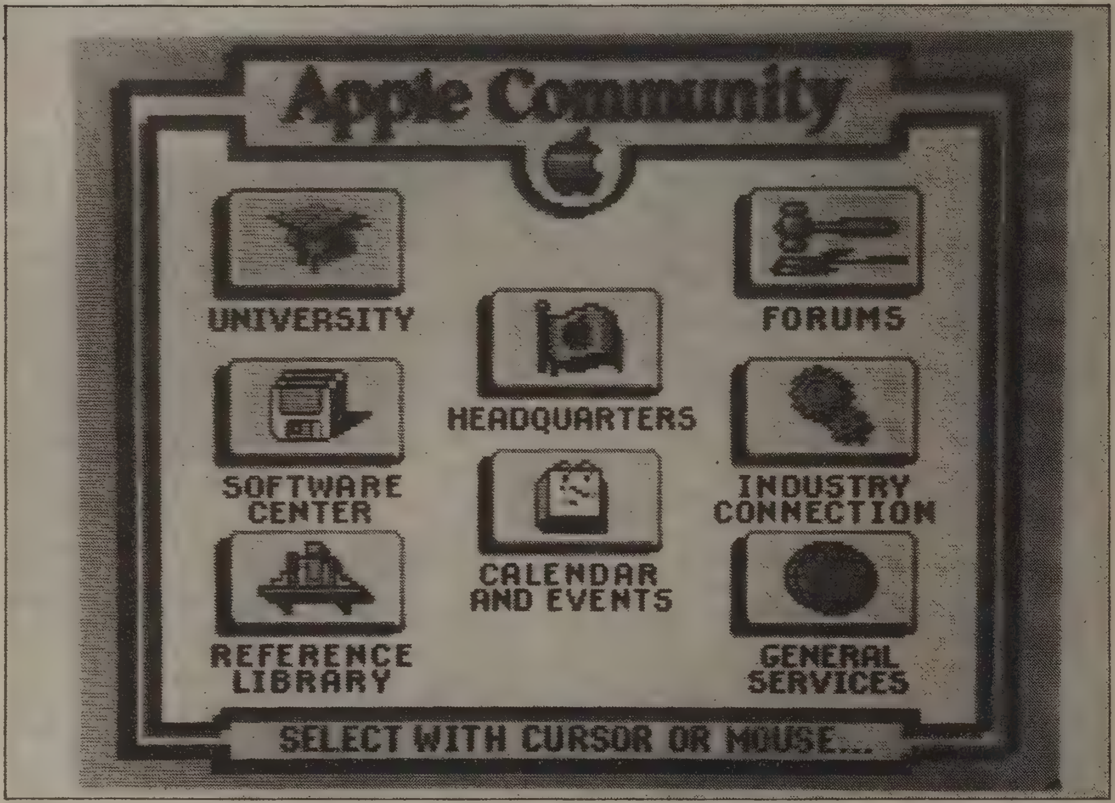
2910-B E. La Palma Ave.
Anaheim, CA 92806

COME IN OUR STORE!
OVER 500 PRODUCT ITEMS IN STOCK!

Terms: Mastercard, Visa, C.O.D. Prices subject to change without notice.

A Quantum Leap For AppleLink

By Mike Markowitz



AppleLink Personal Edition offers a wide variety of affordable services and an extremely friendly interface to Apple II users.

It's only a secondhand Apple 1200 baud modem. I tried three different dealers before I found the right cable (mini-8 DIN to DB-9) to connect it to the built-in serial port on the back of th IIGS. But after all these years, it was my first halting step into the wide, intimidating world of telecommunications.

As it turned out, I couldn't have wished for a more painless introduction than AppleLink Personal Edition, which was officially announced on May 20, 1988. Through my local user group, I hooked up with the beta-test for this new service, which is a joint venture of Apple Computer and Quantum Computer Services of Vienna, Virginia. Quantum runs Q-link, a successful online service for the Commodore 64/128 community.

AppleLink is Apple's own internal online service for dealers and developers. It is not connected to Personal Edition — at least not yet. The service for The Rest Of Us is divided into two great environments and a host of services, functions, "forums," dungeons, hot tubs and salons. One environment is the Apple Community, where you can take a course, check the latest Hot Tips from Apple HQ, join a discussion or use the Reference Library. The other environment is General Services, which includes financial, recreational, social, news, shopping and customer service functions.

Log-on is completely automated. You put the AppleLink 5.25" disk in your boot drive, turn on the modem, turn on your computer and sit back. The software dials a local access number, sets up the connection, checks the password encoded on the disk, and welcomes you to AppleLink. The opening screens use bold graphic point-and-click icons. If you have email waiting, for example, a little flag pops up on a picture of a mailbox. When you get into the various services, the screens are highly functional MouseText pull-down menus and windows. There are standard keyboard shortcuts for mouse-haters. The software is pleasantly intuitive — it works the way you expect it to work. Even in beta test, it was delightfully bug-free.

Hardware and software setup is meticulously documented in a user manual. I still managed to make several dumb mistakes, but the Customer Service folks at the other end of an 800-number were unfailingly patient, polite and competent. The beta test crew was a remarkable cross-section of folks from all walks of life and regions of America, reinforcing the simple truth that you meet the nicest people on an Apple...

So far, nineteen top software companies have signed up to run their own boards in the "Industry Connection" forum. Many of the general-interest forums are run by respected experts. For example, the Games and Entertainment forum leader is Bob Lindstrom of *A+* magazine.

In the first month, I learned to download software, upload text files, use the on-line encyclopedia, sell surplus books, software and hardware through the classified ad board, and understand the hopelessly cute abbreviations and little typographic symbols people use in online conversations — :) is a smiley face, [ ] is a hug, and // // is the Vulcan sign-off: "Live long and prosper."

About the only missing feature I could wish for is a screen-dump toggle, to direct output to the printer. Instead, you have to save files to disk and print them out offline.

A high point of AppleFest in Boston. I also collected enough rumors for half a dozen columns. Brace yourselves, dear readers...

Boring Technical Details

The Apple II version of A-Link PersEd requires a IIGS, IIc or IIe (enhanced, 128K, 80-column, Super Serial card). Most standard modems are supported. The Macintosh version will be available later this year, and will run on any Mac 512K, Plus, SE or II.

Suggested retail price through Apple dealers is $35 for the software, user guide, first year's subscription to the service and two hours of non-prime connect time. There is a glossy monthly magazine that looks a bit like the Program Guide for an incurably stylish cable channel. The first issue sports a grinning Woz on the cover.

Connect time will go for $6 an hour, 6 pm to 7 am weekdays and all day weekends; $15 an hour other times. Rates are the same for 300, 1200 or 2400 baud. For further information, see your authorized Apple dealer, don't call us.

Expect some nifty special offers and price wars

Mike Markowitz is a computer engineer for a large Southern California aerospace company. He has been writing about Apple II computing since the Palaeotronic Era (c.1984 A.D.). You can reach him on AppleLink Personal Edition (MOUSKOWITZ) or The Source (SIG060).

STOP

AND COMPARE OUR QUALITY AND PRICES

SIGMA AT 286 - 10MHZ

- * Intel 20286 6 & 10 Mhz
- * 512 K Ram on Board
- * AT case (clock, 3 Leds, reset)
- * 230 watt power supply
- * 1.2 MB floppy drive
- * Floppy/Hard disk controller
- * Parallel Port / Clock / Calendar
- * Mono graphic card
- * TTL Hi-Res monitor
- * Keytronic Enhanced Keyboard
- * Operation manual
- * 1 year warranty

$995

20MB SYSTEM .... $ **1225**

THE FASTEST AT 286 - 16MHZ (19MHZ THROUGHPUT)

- * Intel 80286 - 16CPU
- * 512 K Ram on board
- * Phoenix Bios
- * 230 watts power supply
- * 101 keytronic keyboard
- * Digital display case
- * Floppy/Hard disk controller
- * 1.2 MB floppy drive
- * Clock/calendar w/battery back up
- * Mono graphic card
- * Parallel card
- * TTL Hi-Res monitor
- * Operation manual
- * 1 year warranty

$1445

20MB SYSTEM .... $ **1645**

SIGMA 386 - 16MHZ

- * Intel 80386 8 & 16 Mhz
- * Phoenix Bios
- * 1MB Ram on Board
- * 230 watt power supply
- * Tower case
- * Floppy/Hard disk controller
- * 1.2 Floppy drive
- * Clock, calendar w/battery back up
- * Mono graphic card
- * Printer Port
- * TTL Hi-Res monitor
- * Enhanced keyboard
- * Operation manual
- * 1 year warranty

$2353

SIGMA XT TURBO 10MHZ

- * Intel 8088-2 4.77 & 10MHZ
- * 512 K Ram on Board
- * AT style case (lock, 3 leds, reset)
- * 150 watt power supply
- * 360 K floppy drive
- * Mono graphic card w/printer port
- * Parallel, serial, game port
- * Clock, calendar w/battery back up
- * TTL Hi-Res monitor
- * AT style keyboard
- * Operation manual
- * 1 year warranty

$615

20MB SYSTEM ....$ **899**

STOP

MONTHLY SPECIALS

* Toshiba 3-5" Drive 720 K :	$95
* Toshiba 3-5" Drive 1.44 K :	$115
* Parasonic 1080i II Printer:	$175
* Modem 300-1200-2400 baud:	$145

- * Call us for volume discount
- * Corporate, Government & Institutional P.O.'s welcome
- * Dealer & consultant inquiries invited
- * Prices are subject to change without notice

20MB LCD 286 - 12 MHZ

- * Intel 80286 6 & 12 Mhz
- * 512 K Ram (exp. to 1MB)
- * 1.2 Floppy drive
- * Non glare LCD screen
- * 5 expansion slots
- * 20MB hard disk
- * Floppy/Hard disk controller
- * Color & mono mode switchable
- * 86 keys keyboard
- * Operation manual
- * 1 year warranty

$1745

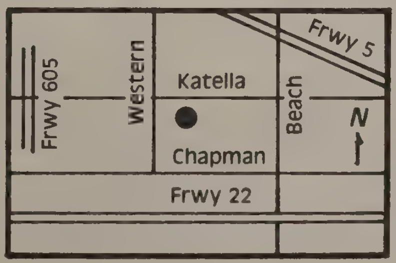
Solutions build on quality

PERSONAL COMPUTER

SIGMA COMPUTERS

7540 Katella Ave., Stanton, CA 90680
Tel.(714) 893-0609
Fax (714) 893-0530

VISA MasterCard



Mon-Fri: 9AM-6PM,
Sat. 10AM-5PM

Designed by GC Graphics (714) 537-2083

as AppleLink PersEd goes into competition with the leader, CompuServe (35% market share). According to an estimate published recently in *PC Week*, only 29% of the 20.6 million computers in American homes have modems. Of 3.5 million Apples, only 1 million have modems. It's Fear of Fone Bills, that dread crippler of connectivity!!!

A Second Source

You should also know about APPLESIG on The Source. The connect charges are reasonable, the public domain and shareware libary is extensive, the menu-driven interface is friendly, there is expert assistance for technical questions, and the sysop, Joe Kohn is willing to upload my reviews and columns for the edification and amusement of the community. For more information, call The Source at (800) 336-3366 to sign up.

A Second Quarter

Apple's 1988 Second Quarter financial report went out to shareholders, analysts and press drones. Net revenues were $867 million, up 51% over last year. International sales were up 95%. The cover of the report was a somber photograph of three Mac II's sitting incongruously on antique desks in an office that looks like the French Ministry of Arrogance. There is an etching of the Arc de Triomphe on the wall. There is no sign of Woz. The quarterly report does not even hint at the existence of an Apple II product line. That's no way to treat a cash cow...Apple's hoard of cash now stands at $611 million. My stockbroker said that Apple is one of the few major corporations that could ride out a major depression, thanks to that comfortable nest egg.

> **AppleLink is divided into two great environments and a host of services, functions, forums, dungeons, hot tubs and salons.**

Pumping Irony

At COMDEX in Atlanta, IBM was showing Apple II software (The Learning Company's Reader Rabbit, in fact) running on a PS/2 Model 25. It looked pretty good. The last, best hope for this machine in the K-12 market seems to be Trackstar, an Apple II coprocessor board with 128K of its own RAM that can live in an 8-bit slot in a PC. Apparently there is nothing in the ROM that Apple's lawyers can object to. We hope to review this card in a future issue. Most educational software for the IBM PC is strikingly ugly, thanks to the hideous colors of the CGA palette and the blocky type faces of the text. EGA and VGA promise to radically alter this picture, but they came too late, they cost a lot, and the Inertia of the Installed Base gives Apple II a death grip on the education market. Trackstar is made by Diamond Computer Systems, 1225 Tiros Way, Sunnyvale, CA 94086, (408) 736-2000.

Next month: desktop publishing on the Apple II... □

AppleLink Personal Edition Services

Features	Benefit/Description
• One step sign-on process	• Automatic online access.
• Icons and pull down menus	• Easy-to-use timesaving navigation.
• Real-time chat	• Live connection to other Apple owners across the country. Online chat tools enable user to identify and locate other subscribers online, highlight or ignore online messages.
• Electronic mail	• Send an electronic letter or disk file to any other subscriber.
• Flashnotes	• Send an instant private message to any individual online user's screen.
• Work Offline	• Compose mail offline without incurring online charges.
• Set Options	• Preset a variety of options such as a favorite online screen name or most often used online areas.
• Nationwide, 24 hrs./day	• Widely accessible.
• *AppleLink Update*™	• A monthly subscriber magazine with information on the latest service enhancements and additions. The *Update* also provides detailed listings of nightly conferences and online events.

Apple Community Services

• Forums	• Apple® II and Macintosh® product, product development, and special interest forums.
• Industry Connection	• Third party Apple hardware and software developers provide demo software, catalog product descriptions and product support.
• Software Center	• Public domain software and demoware.
• Apple Headquarters	• Information about Apple products, press releases, Apple store catalog, connection to Apple Customer Relations.
• Apple University	• Initial courses offered are how to program in BASIC and using Apple Works. Online courses contain realtime interactive classrooms, downloadable homework and quizzes.
• Reference Library	• Information from Apple's technical and product databases. Software reviews. Access to Special Education software and the Apple Programmers and Developers Association (APDA).
• Calendar of Events	• Guide to online Activities.

General Services Section

• People Connection	• General online chat area. Includes the Auditorium, featuring guests on special topics.
• Financial District	• 15-minute time delayed stock quotes from the NYSE, AMEX and OTC. Stock market summary. Investor's debate board.
• Recreation Center	• Hollywood Hotline, SportsLink, RockLink, Book Best Sellers.
• Club House	• Online groups dedicated to special interest topics such as travel, education, genealogy, astrology.
• News Room	• International news and weather as it comes across the wire.
• The Mall	• Instant shopping and travel. Includes Comp-u-store (over 200,000 brand name items), flower shop, American Airlines EAAsy Sabre service, classified ads section.
• Customer Service	• Comprehensive online guide, subscriber account information, information about upcoming online events.
• Learning Center	• University of Tomorrow, Manager's Network, Grolier's Academic American Encyclopedia.

AppleLink — Personal Edition is jointly developed and co-marketed by Apple Computer, Inc. and Quantum Computer Services, Inc.

We're Ranked One of the Largest Volume PC Retailers in L.A. County by the Los Angeles Business Journal

TOSHIBA

T-3200 lap top	**$3599**
T-5100 ALL IN STOCK	**$4479**
TOSHIBA 3100/20 W/SYMPHONY	**$3099**

MODEMS & UPGRADE AVAILABLE

T-1200	**$2179**
T-1000	**$729**

NEC HD W/20 Meg	**$2099**
Multispeed EL2	New **$1459**

NETWORK HEADQUARTERS

EXPERT INSTALLATION & TRAINING
NOVELL SPECIALIST
CALL LARRY AT 478-0768

AST-286

Pick up today

W/20 Meg HD. 1.2 Floppy
Complete System:
$1899

MDL 140 **$2599**

w/60 MEG HD $2299

DOS-clock-SER-PAR-512K Ram
HI-RES Mono Monitor. Mono Card

AST-386-40/90 MEG IN STOCK

Advanced Logic Research

Authorized Dealer

DART 286 mdl 40	10 mhz	**$1929**
DART 286 mdl R66	10 mhz	**$1819**
286/30 12.5 mhz		**$1829**
286/10 12.5 mhz		**$1379**
286/R66 12.5 mhz		**$2179**
386/2/R66		**$2779**
386/220/R66		**$3279**
386/220/401		**$3279**

FLEXCACHE

386/60 16 mhz	**$3779**
386/60 20 mhz	**$Call**
386/100 20 mhz	**$Call**
386/150 20 mhz	**$Call**

MAC II

W/60 MEG
HARD DISC
$3259
KEYBOARD EXTRA

LEADING EDGE

MDL D2 $1579 ALL IN STOCK

30 Meg HD, 1.2 floppy, 640K Ram, Card, Monitor Optional

AUTHORIZED DEALER

D2 w/65 MEG HD complete system	**$1995**
MDL D 2 DR/20Meg/30Meg	**719/979/999**

HP

LASER JET II w/toner in stock	**$1619**
SCANJET w/interface	**$1299**
Rugged Writer NEW In Stock	**$1299**
Desk Jet in stock Today Only	**$679**
PAint Jets in Stock	**$959**

COMPAQ®

Deskpro 286 "12 MHZ" IN STOCK	**$1599**
W-20 Meg/W-40 Meg	**1899/2299**
Deskpro 386 "20 MHZ" 60 Meg	**5459**
Deskpro 386 "20 MHZ" 130 Meg	**6579**
Portable II MDL 4 original	**2659**
Portable III MDL 20/40	**3499/3999**
Portable 386 "20 MHZ" 40 Meg	**5479**
Portable 386 "20 MHZ" 100 Meg	**6899**

EPSON

FX-86E/FX-286E	**$329/429**
EX-800/EX-1000	**$449/529**
LX-800/LQ-850	**$199/529**
LQ-1050/LQ-2500	**$709/849**
LQ500/GQ3500 LASER	**349/1359**

IBM

MDL 60/70 Meg Lowest Ever	**$3495**
MDL 30 2 DR/20 Meg	**1299/1649**
MDL 50 w/20 Meg	**2499**
MDL 80 w/40 MG (70 Meg)	**3995/4695**
MDL 60/40 Meg Lowest Ever	**$3195**

TOSHIBA 321 SL/341 SL	**459/659**
APPLE IMAGE WRITER II	**459**
CITIZEN MSP 45/MSP 40	**459/329**
DICONIX PORTABLE	**339/459**
SEAGATE HD 20/30 MEG	**289/325**
NEC LC-890 LASER	**CALL**
ZENITH 183 20 MEG	**1999**
NEC MULTISYNC II	**569**

APPLE

Laser Writer NT	**3695**
MAC SE w/20 MEG	**2479**

Desktop publishing Call John Simon 542-8325

ZENITH NEW SUPERSPORT	**$2599**
ZENITH 2 DRIVE	**$1695**

CONSULTANTS & DEALERS WELCOME

L.A. COMPUTER CENTER

TECHNICIAN & SALESPERSON WANTED

Support Service & Availability
PO's Accepted, Corporate accounts welcome

FULL LINE DEALER
#1 Dealer in So. Calif.

542-3501
S. BAY
17013 Hawthorne Blvd.
(Off 405 & 91 Fwy)

478-0768
W.L.A.
12002 Pico Blvd.
East of Bundy
(Off 10 & 405 Fwy)

USER GROUP NETWORK

By Mary Eisenhart

We'd like to draw your attention to the BMUG column in this issue and welcome BMUG to *MicroTimes*.

BMUG, as some of you may know, began life as the **Berkeley Macintosh User Group**, and is now known as **BMUG Inc.** You may have noticed Apple's recommendation of this group as an information resource in your Macintosh manuals, and BMUG's **David Morgenstern** will be bringing us a collection of tips and info gleaned from the club's tech support line and its weekly group meetings. We look forward to a long and cheerful future of bringing you this information.

The June 2 BMUG meeting featured a presentation by **Bill Atkinson** of the new features of *HyperCard*, which he demonstrated for the near-capacity crowd. He was joined by most of the *HyperCard* development team, and those in attendance took advantage of the rare opportunity to ask the program's authors about the problems they'd been having. They also bombarded Atkinson with questions about future enhancements, with most of the more interesting queries getting a big grin and "I can't talk about that." After about four such inquiries, *HyperCard*'s author commented, to general applause, on the amazing ability of the group to hit upon all the things he couldn't talk about.

After the more technical presentations, **Amanda Goodenough** unveiled the latest in her **Inigo** series of stacks, in which *HyperCard*'s favorite black cat takes a bath, eats a lot of bananas, and has other adventures. A fine time was had by all.

Continuing with events in the Mac universe, **Ruth Stever** of **MacValley** in Burbank invites you all to the group's July 19 meeting, which will feature a presentation by **Cliff Johnson** of Miles Computing. Johnson is the author of a game program called *The Fool's Errand*, which he will demonstrate for the assembled throngs. The meeting will be held at 7:30 pm in Burbank High School's cafeteria, located at Burbank Blvd. and Third Street.

UNIX is attaining new prominence on the user group scene, and we've received two UNIX-related announcements this month. One comes from the Bay Area chapter of the **Association for Women in Computing**, which is sponsoring a presentation of what the operating system is, what its best uses are, why it's suddenly become so popular, and its likely impact on the future of computing. All this information will be presented by **April Ogimachi**, and the presentation will begin at 6:30 pm July 6, at the Stagecoach Restaurant, 44 Montgomery Street in San Francisco. Fee is $8.00 for members, $13 for guests. More information is available from **Louise Wolfe** at (415) 655-3110.

David Harris, meanwhile, writes in to tell us about the new and growing **PC UNIX SIG**, which meets on second Mondays at the AT&T Training Center in Sunnyvale. Meetings are intended to let beginners and experts pool their knowledge of UNIX versions including Microport, XENIX, and Minix. The group is in the process of putting together a software library of public domain source code, and its meetings offer talks by UNIX experts and general Q&A. The June 13 meeting featured a practical discussion of the different varieties of UNIX, which varieties are better for 286 and 386 machines, and what all this is likely to cost your business.

If this sounds like the resource you've been looking for, waste no time, but call **Dan Kionka** at (408)432-1300 or the ever-helpful **Mark Dill** at (408)995-3966 for further information. Denizens of Usenet can also reach Dan at {amdahl, uunet, unisoft}!cerebus!dank.

Our conferencing system of choice, **The WELL** (415/332-6106) is lively as ever these days. There's quite a lot going on in the various conferences, which number well over 100: Deadheads are discussing the summer tour season in Grateful Dead, scriptors compare notes frequently in HyperCard while Mac users discuss the joys and sorrows of System 6.0, armchair politicians blaze away in Politics, and in the Jewish conference, **Ari Davidow**, an occasional contributor to these pages, is pleased to report that correspondent **Mark Steinberg** "is in Israel for a few months as an intern for *New Outlook* magazine and has started sending in his daily (or so) reports on what is happening over there." So if your TV and newspapers aren't giving you the information and entertainment you *just know* is out there, jump into The WELL. Call **John Coate** at (415)332-4335 for more information.

The **Software Entrepreneurs' Forum**, always a hotbed of interesting activity, will be featuring the distinguished **Esther Dyson** at its July 21 meeting. Dyson, whose newsletter *Release 1.0* is indispensable to the cognoscenti, had not yet announced the topic of her talk at presstime; call SEF's **Barbara Cass** at (415)854-7219 for details and updated information.

SEF, which is based in the Bay Area but has members nationwide, is in the process of forming a national network of regional software associations, which will be of particular interest to those who live too far away to take full advantage of the group's local resources. SEF has proved invaluable resource to both developers and marketers, especially in Silicon Valley, so if you've got a product, an idea, or just think you might like some advice about the best way of matching your brainchild with its natural audience, SEF is the place to start. Barbara Cass is the person to call for details on this project; her number again: (415)854-7219.

From beautiful downtown Emeryville, **Bill Baldwin** of **Personal Computer Solutions** would like you to know about the **Network Users Group**, sponsored by his company. The Network Users Group offers the opportunity for LAN users and would-be LAN users to compare viewpoints and share information to enable managers to make more informed decisions for the growth and productivity of their network systems. The initial meeting on June 2 featured a presentation on "OS/2 On Networks"; the July 7 meeting will have a panel discussion of "groupware" and workgroup software. Speakers will include representatives of Action Technologies, who will explain The Coordinator, Brøderbund Software, publisher of ForComment, and Conectic Systems, developer of Higgins. If you'd like to learn more about this group, call Daniel Parillo or Barbara Snow at (415)655-6500.

That's it for another month. If there's something you want to tell us about, please feel free to send email to microx on The WELL, or send the US variety to User Group Network, 5951 Canning Street, Oakland, CA 94609.

BULLETIN BOARDS

INTERNATIONAL

FidoNet Argentina (054). (011) 541-22-419. 8-N-1 3 PM-11 AM PST. The 1st fido node in Argentina has over 450 subscribers. Specializes in issues from S.A. PD software library to d-load. Sysop: Pable Kleinman

Cassia Express. (065) 344-9163. 300/1200/2400 24 hrs. Singapore. Sysop: N.M.Rahman

Remote Bulletin Board (Singapore). (065) 445-1646. 9600/2400/1200 24 hrs. 218 MB Online (IBM upload/download). Sysop: Umar A. Rahman

Terrapin Station. (203) 656-0134. Grateful Dead Board. Sysop: Klaus and Gretchen Bender.

209

Bertha Board. (209) 239-9853. 300/1200/2400 8-N-1 24 hrs. MS-DOS, others. Some emphasis on programming. Up- & downloads. Free. Registration required. Sysop: Kenneth Roach

Silicon Realms. (209) 754-5530. 300/(1200 Soon) 9:30AM to 6:30AM.Formerly Motherload 64. Commodore, PET & Plus/4. Programmers board, Continuing & Short Story boards, FRPG. Sysop: Joe Commodore

213

Ashton-Tate Support. (213) 538-6196. Free technical support, answers to questions about Ashton-Tate software products.

Carrier Point Information. (213) 423-4999. 1200/2400 8-N-1 All but 1:30-3:30 PM. TBBS multi-user system. Operating 10 lines, 9 in rotation. All lines support 300/1200/2400 baud rates.

Chat Line. (213) 534-4311. Multi-line, Multi-user interactive group & private forums. Downloads, Database.

Dial-Your-Match. (213) 539-2448. Lomita.

Dial-Your-Match. (213) 633-4349. Downey.

Dial-Your-Match. (213) 461-9899. Hollywood.

Dial-Your-Match. (213) 467-6776. Hollywood.

Dial-Your-Match. (213) 558-4336. Culver City.

David's Amazing BBS. (213) 459-5891. Conferencing (like the Well, but easier to use). Electronic bar; talk; matchmaking; 5 lines; unique software. Sysop: David Dennis

ICN. (213) 204-0646. 2400/1200/300 24 hrs. The place to buy/sell/trade collectibles (stamps, books, etc.)

Information Symposium. (213) 258-5086. 300/1200/2400 8-N-1 24 hrs. Serving the Info. Professional, Tech. Info, M.I.S. Employment. MS-DOS; OS/2; graphics. Password req'd for access is "Micro." Sysop: William Bloomer

Lynzie's Motherboard. (213) 650-0519. 300/1200/2400 8-N-1 24 hrs. Multiinterest. Social events for users. If you're looking for a discriminating BBS, this is the place to be. Sysop: Lynzie Flynn

Oil Patch PC Board. (213) 427-5980. 300/1200 8-N-1 Eves. only. Exclusively C. Libraries; utilities; source code; tutorials. Sysop: Rick Shoop

Southland News. (213) 402-4079. 24 hrs. An online newsmagazine w/ general news, comments, entertainment, computer news show, club & swap meet listings.

The Great American Audio/Video Board. (213) 469-6542. 300/1200 8-N-1 Eves. Reviews, essays, buyers guide, instruction. Sysop: Keith Bass

Westside. (213) 933-4050. 3/12/2400 8-N-1 24 hrs. 17 lines w/chat, library, matching. Public & E-mail.

Beaver Creek. (213) 437-1410. 8-N-1 All but 4-9 PM. Sysop: John Campbell

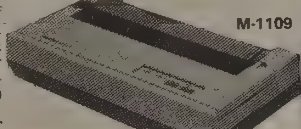
Time-X-Change. (213) 329-3922. 300/1200 8-N-1 24 hrs. Timex-Sinclair & CP/M users Free Sysop: Dave Clifford

Electronic Media Network. (216) 241-2612. 1200 8-N-1 23 hrs. Provides link between employers and high-tech and highly skilled professionals.

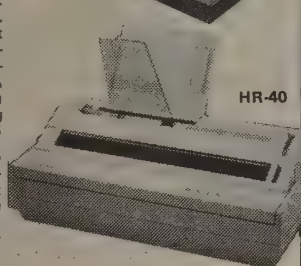
Planet Zed. (213) 434-2933. 300/1200/2400 8-N-1 24 hrs.

brother Printer Sale!

Brother printers are known for their reliability, performance and versatility. Presented here are a few state-of-the-art printers for your word processing and data processing needs. Let Brother put your reputation on paper!


M-1109

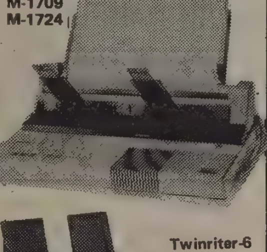
M-1109 — 100cps, 80 column printer with near letter quality mode. 2K buffer. Compact (13"x2.8"x7.6") & lightweight(7.8 lb.) design. Ideal for use with portable or lap-top computers. Complete with tractor . . $219


HR-40

NEW! HR-40 — A high speed daisywheel printer that make you look good on paper. 40cps, 136 column. Built in push-type tractor would not waste the first form. Built-in single-sheet feeder makes it the best price-performance daisywheel printer. A unique paper parking feature lets you insert single sheet without removing continuous form $625

M-1509 — Our best seller! 180cps (45 cps NLQ), 136 column. Unique side-mounted cable connection would not tangle form paper and push-type tractor would not waste the first form. Single push button for near letter quality printing. 3K buffer. IBM & Epson compatible. . . . $359

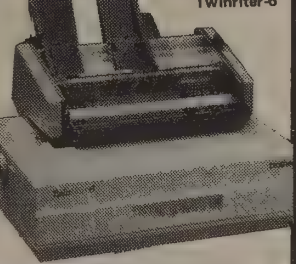
M-1509
M-1709
M-1724



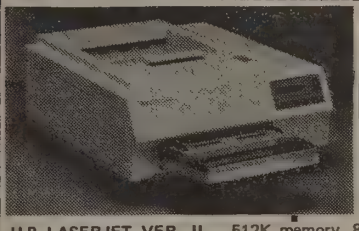
M-1709 — It has features similar to 1509 but high speed 240cps (50cps NLQ), 136 column, large 24K buffer. Unique push-type tractor and paper parking features. Heavy duty print-head for business use. Quiet . . $459

NEW! M-1724 — A truly versatile text and graphic printer with its 24-pin head and 216cps output (72cps NLQ), 136 column. Advanced paper parking feature lets you switch to single sheet without removing the continuous forms. . . . . $Call

M-2518 (New!) — A data processing work horse. 18-in, 360cps, can handle 6-part form with its unique straight-thru paper path, plus quto paper thickness adjustment, paper express and paper parking features. Optional color printing. . . . . $Call


Twinriter-6

NEW! Twinriter 6 — If you believe 2 heads are better than one, this is it! The dot matrix head creates crisp graphics and prints draft text at 200cps and its daisywheel prints letter quality text at 36cps. Compatible with the new integrated text/graphics software such as Lotus & Framework. $Call



LASER PRINTER SALE

H-P LASERJET VER. II — 512K memory, 8 page/minute, 300x300 dot resolution, 6 resident fonts . . . . $Call

BROTHER HL-8 LASER PRINTER — 1 MB memory, 8 page/minute, 300x300 dot resolution, 20 resident fonts. 16-character LCD display gives instruction to user, H-P compatible (same Canon engine as H-P) . $ $Call

FORTIS PAGE PRINTER DP800 — 1.5 MB memory, 8 page/minute, 300x300 dot resolution, H-P compatible, new Liquid Crystal Shutter technologywith fewer moving parts, greater reliability and sharper image .$ $Call

FORTIS

Fortis DX-21 — 22cps Daisywheel printer, 1 year warranty . .	$349
Fortis DX-41 — 40cps Daisywheel printer, 1 year warranty . .	$589
Fortis DM-1310 Printer, 130cps, 80 column	$225
Fortis DM-2010T Printer, 200cps, 80 column	$325
Fortis DM-2015T Printer, 200cps, 132 column	$399

NEC

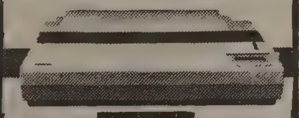
NEC 2200, 180cps, 80 col . . .	$395

OKIDATA

192+ — 200cps, 80 col	$369
193+ — 200cps, 132 col	$499
293E — 132 col	$589
Molule for 293E (paralle/serial) .	$99

STAR GEMINI

SB-10, 24-pin, 80 column	$375



EPSON

LX-800 — 80 col. w/tractor . .	$245
FX-86E — 240cps, 80 col . . .	$369
FX-286E — 240cps, 132 col . .	$479
LQ-500 — 24-pin, 80 col	$359
LQ-850 — 24-in, 80 col.	$569
LQ-1050 — 24-pin, 132 col . .	$769
LQ-2500 — 24-pin, 324cp . . .	$945

CITIZEN

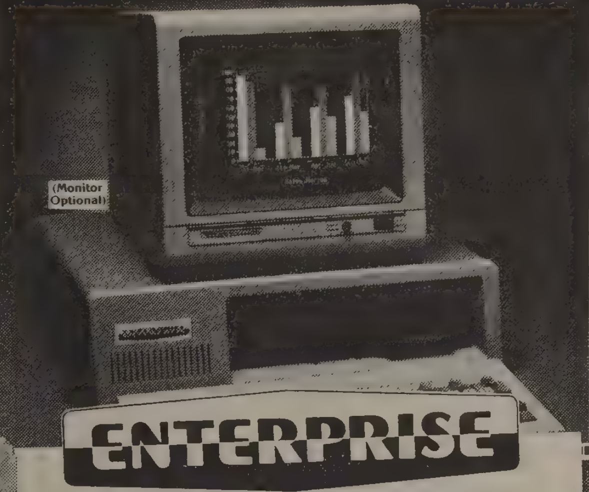
Citizen 180D — 150cps, 80 col	$199
Citizen MSP15, 160cps,132 col	$335
Citizen MSP25, 200cps, 132 col	$399
Citizen MSP55, 250cps, 132 col	$475
Citizen Premium 35 daisywheel	$479
Citizen Tribute 224, 24-pin . .	$599

TOSHIBA

Toshiba P321-SL — 24-pin . . .	$535
Toshiba P341-SL — 24-pin . . .	$725
Toshiba P351SX — 360cps. . .	$1125

PANASONIC

Panasonic KX-P1080i — 80 col./	$225
Panasonic KX-P1091i — 192cps.	$269
Panasonic KX-P1092i — 240cps.	$365
Panasonic KX-P3151 — 22cps. .	$389


(Monitor Optional)

ENTERPRISE

ENTERPRISE XT-TURBO

- Fully IBM PC/XT compatible
- 640K on mother board
- 8 expansion slots
- 84-key keyboard with LED's
- 150-watt power supply
- Keyboard speed selectable from 4.77 MHz to Turbo speed
- Full one-year warranty
- Parallel printer port included
- Serial port included
- Game port included
- Clock/calendar w/battery backup
- Compatible w/EGA, CAD CAM, and networking systems

	640K memory 1-360K drive	2-360K and 20-MB Drives	2-360K and 30-MB drives	2-360K and 40-MB drives
8MHz	$639	$979	$1009	$1179
10MHz	$649	$989	$1019	$1189

(Monitor Optional)

ENTERPRISE 286

- Fully IBM AT compatible
- 512K memory — expandable to 1-MB
- Controller for floppy & hard disks
- 1.2-MB floppy drive
- 101-key enhanced keyboard w/LED's
- Keyboard speed selectable
- 200-watt power supply
- 8 expansion slots
- Clock/calendar with battery
- Full 1-year warranty

	512K memory 1 floppy drive	512K memory 2 floppy drives	2 floppy and 40-MB drives	2 floppy and 72-MB drives
12MHz	$1025	$1095	$1595	$1795

HARD DISK SALE!

Seagate 225, 20-MB w/W.D. controller.	$259
Seagate 238, 30-MB w/W.D. controller.	$329
Seagate 251, 40-MB hard disk only	$359
Micropolis 72-MB hard disk, 27 ms . . *Special Sale*	$699

TOWER CASE

The finest tower case you can buy! Will accommodate PC/XT, AT, mini AT and 386 motherboards. Easy to open with only two screws.

- LED lights for power, hard disk, and turbo speed indications
- Up-front on/off switch
- Reset switch and Turbo switch
- Key lock
- Two 3½" slots for 3½" floppy or hard disk drives, two 5¼" slots for floppy drive or tape backup, plus one 5¼" slot for full ht. hard disk
- Same dimensions as IBM PS/2 60/80
- 6 port holes for parallel/RS-232 or networking connectors
- 275-watt heavy duty power supply with auto sensing 110/220 volt AC
- Optional AC fan included
- Unique folding legs

$275

PORTABLE 286 COMPUTER

Compact & lightweight
Weighs approx. 20 lb.

- 12-MHz, Intel 80286-12 processor
- 640K memory, expandable to 1-MB
- 80x25-line back-lit LCD screen w/reverse video switch
- 1.2-MB floppy drive
- RGB color port for external color monitor
- Auto sensing 110/220 VAC power supply
- Full featured keyboard w/12 function keys
- 5 expansion slots
- parallel & serial ports included

with 20-MB hard disk .	$1,795
with 40-MB hard disk .	$1,995

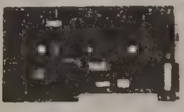
LAP-TOP COMPUTERS

Toshiba T1000, 512K, 1drive .	$795
Toshiba T1100, 2 drives . . .	$1395
Toshiba T1200, 1 dr.,20-MB.	$2295
Toshiba T3100-20, 1 dir.20MB	$3095
Toshiba T3200, 40-MB	$3795
Toshiba T5100, 40-MB	$4895
NEC Multispeed EL 2 drives.	$1495
NEC Multispeed EL,1dr. 20MB	$2295

MONO COMB...*complete*	$150
RGB COMBO...*complete*	$300
EGA COMBO...*complete*	$500
NEC 1402 Multisyn-2 monitor .	$599
Samsung SM200 Amber w/base .	$99
Samsung 14" RGB Color w/base	$275
Samsung 14" EGA Color.	$385
Sony FV1311 RGB & TV	$469
Sony SPD1302 Multisyn Color .	$599
Sony SPD1303 Multisyn Color .	$555
Taxan 765 14" EGA Color . . .	$385
Taxan 770 Multisyn Color	$499
TVM MD-7F 14" EGA Color . .	$395
TVM MD-11 14" Multisyn color	$495
TVM MM-11 14" Multisyn B/W.	$195
Thompson 14" RGB Color . . .	$289
Thompson 14" Multisyn color .	$545

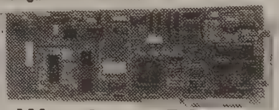
Modem Sale!

Everex 1200 internal	$99
Everex 2400 internal	$195
Everex 2400 external.	$225
Hayes 1200 external	$329
Hayes 1200B internal w/Scom	$329
Hayes 2400 external	$485
Haves 2400B internal w/Scom	$485



ADD-ON CARDS

Hi-speed Monographics w/par .	$75
Hi-speed Color card w)par.port	$75
Multi I/O & floppy controller .	$75
Four-Mode EGA Card	$125
Par./serial/clock card for XT. .	$69
Parallel/serial I/O card for AT .	$65
RS-232 serial card.	$29
Parallel printer card.	$25
Multifunction memoryw/0K. .	$125
Hercules color card w/par.port	$155
Hercules Graphics-Plus	$185
Hercules In-Color card	$299
Intel Above board.	$379
Genoa Level 7 EGA/VGA card	$199
Vega Deluxe EGA/VGA card .	$235

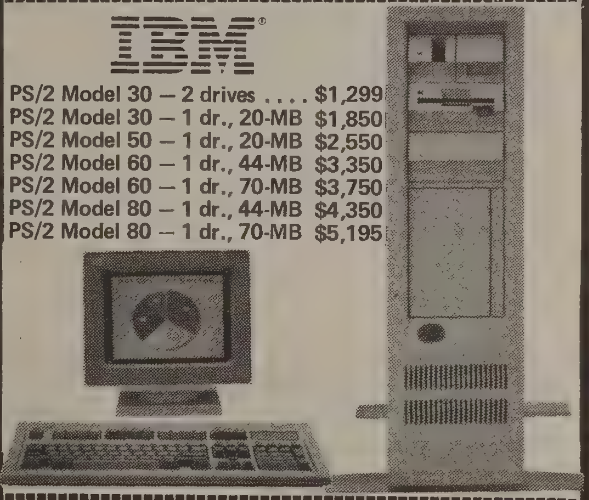


Western Digital WA2 Controller

For AT compatibles. Controls both hard and floppy drives. **$115**

IBM

PS/2 Model 30 — 2 drives	$1,299
PS/2 Model 30 — 1 dr., 20-MB	$1,850
PS/2 Model 50 — 1 dr., 20-MB	$2,550
PS/2 Model 60 — 1 dr., 44-MB	$3,350
PS/2 Model 60 — 1 dr., 70-MB	$3,750
PS/2 Model 80 — 1 dr., 44-MB	$4,350
PS/2 Model 80 — 1 dr., 70-MB	$5,195



COMPAQ

Compaq portable 2, Mod. 2	$1,950
Compaq portable 2, Mod. 4	$2,575
Portable 3, 20-MB, 640K. .	$3,435
Portable 3, 40-MB, 640K. .	$3,995
Portable 386, 40-MB	$5,495
Despro 286, 12-MHz,, 1 dr.	$1,725
Despro 286, 12-MHz, 40-MB	$2,950
Despro 386, 16-MHz, 40-MB	$3,995
Despro 386, 20-MHz, 60-MB	$5,395
Despro 386, 130-MB	$6,595

All goods are brand new and guaranteed. All advertised prices already include a 2% cash discount for full payment by cashier's check, money order or cash. Personal or company checks must clear 3 weeks before we ship. Add 2% for credit card purchases. COD's are accepted for UPS shipments only and require 20% paid deposit and $3 COD fee. No COD's to Canada, Puerto Rico, FPO/APO or P.O. Boxes. Shipping & insurance charges by UPS Ground: $5 (card/modem/drive/software), $10 (monitor/printer), $15 (computer/plotter), $25 (laser printer/UPS/copier). UPS Blue: 3X Ground. UPS Red: 4X Ground. P.O.'s accepted from government agencies, Fortune 1000 firms and major institutions. Calif. buyers add sales tax. Prices subject to quantity available, correction or change without notice. You may call for the latest prices.

EASTERN ENTERPRISES, INC.
Mass Merchandising Since 1969
6001 BANDINI BLVD., LOS ANGELES, CA 90040
COME VISIT OUR GIGANTIC SHOWROOM & STORE

TOLL-FREE (ORDERS ONLY) **(800)392-7081**
Hours: Monday to Friday 8:30am — 5:00pm Pacific Time
Calif., Alaska & all info *Call* **(213)725-3080**
FAX: (818)992-0990

IBM PC, XT, AT are registered trademarks of International Business Machines Corp.

PC Plus Consulting Presents:

FREEWARE

Public Domain and Shareware for IBM and Compatibles
Programs and Utilities to meet all your computing needs.

ONLY $2.99 Per Disk!

ADULTS ONLY

☐ ADULTS ONLY / 1 (147) - German made, animated graphics. CGA required.
☐ X-RATED PRINTMASTER (149) - Graphics for Printmaster Plus.
☐ X-RATED PRINTSHOP (150) - Graphics for Printshop.
☐ ASTRO-[bleep] (297) - Dirty arcade game. CGA required.
☐ NASTY GIRL (435) - Hot..... CGA required.
☐ MAXINE (497) - Must see.....CGA or EGA required.
☐ ON-TOP (555 & 556) (2 disk set) - Amazing...CGA or EGA required. NEW...

BUSINESS

☐ EZ-FORMS Rev. D15 (66) - Forms generator, with skeleton forms; great!
☐ EASY PROJECT V2.5 (440) - Complete project management system. NEW...
☐ REAL ESTATE ANALYST (83) - Menu driven, mortgages, interest, etc.
☐ CK - CHECKBOOK V3.1 (79) -Balances checkbook; reports.
☐ BUSINESS LETTERS (303 & 304) - (2 disk set) 650 business letters to fit all your needs. Edit w/ any word processor.
☐ MR. BILL V3.2 (311 & 312) - (2 disk set) Time & billing package. Excellent.
☐ RENTAL PROPERTY (318) - Tracks rental activity, fully menu driven.
☐ PRO PC-ACCT V3.0 (536) - Fully integrated G/L, A/P, A/R accounting pkg.

COMMUNICATIONS

☐ PROCOMM PLUS TEST DRIVE V1.1 - (504) - Menu driven modem program.

DATABASE

☐ FILE EXPRESS V4.18 (33 & 34) - (2 disk set) Menu driven, easy to use database.
☐ PC-FILE + V2.0 (493 - 495)- (3 disk set) Full-featured database. Buttonware.
☐ dGENERATE V1.0 (511) - Screen / source code generator by Tom Rettig. dBase III req.

EDUCATION

☐ BEGINNING SPANISH (121) - Teaches vocabulary, nouns, etc. Basic required.
☐ THE WORLD 3D (127) - Display world maps. CGA required.
☐ FUNNELS & BUCKETS V 2.0 (130) - Great learning game; add, subtract, multiply, & divide. Ages 5 - 10.
☐ ERYN'S ABC'S (131) - Teaches alphabet & numbers. Ages 2 - 6. Basic req.
☐ ANIMAL MATH / MOSAIC (181) - Count objects & graphic learning tool. Ages 4 & up. CGA required.

GAMES

☐ MONOPOLY V6.7 (106) - 2 to 4 players, nice graphics. CGA required.
☐ SLEUTH (89) - A whodunit game similar to 'Clue'; with graphics.
☐ 3D CHESS V1.01 (215) - Excellent chess game ; 6 levels of play.
☐ MINIATURE GOLF (505) - 18 hole golf course with graphics. CGA required.

GRAPHICS

☐ CITY DESK V6.0 (197)- Desktop publisher; has graphic capability.
☐ FINGERPAINT V2.0 (282)- Menu driven paint program; use in desktop publishing, slide-show, & cartoon playing. CGA, EGA, Hercules.
☐ LIGHTING PRESS (266) - Printmaster Plus clone, letters, flyers, etc.
☐ PRINTMASTER GRAPHICS (319) - 3 libraries of graphics for Printmaster Plus.
☐ PRINTMASTER GRAPHICS /2 (549) - 150 more graphics for Printmaster Plus. NEW.
☐ PRINTMASTER GRAPHICS /3 (550) - 130 more graphics for Printmaster Plus. NEW.
☐ PRINTSHOP GRAPHICS (320) - 3 libraries for Printshop.
☐ DANCAD 3D V2.0B (424 & 425) -(2 disk set) Advanced 2D/3D CAD program; latest version. CGA, EGA, Hercules.
☐ PC-KEY-DRAW V3.33 (534-536)- (3 disk set) - Combination of CAD & paint program. Excellent; latest version. CGA or EGA supported.

LANGUAGE

☐ TURBO "C" TUTOR (489 & 490) - (2 disk set) 14 lesson tutorial ; learn to program in "C" language.
☐ "C" LANGUAGE V2.1 (299 & 300) - (2 disk set) Complete programming environment. Source, compiler, samples.

MISCELLANEOUS

☐ LOTTO # GENERATOR (159) - Win big $$$$$$. Current data thru April.
☐ FREEWILL V1.0 (171) - Valid WILLS for California. Easy to fill in.
☐ TENANTS RIGHTS (196) - The 'Bible' for California renters.

PRINTER UTILITIES

☐ LQ V2.1 (509) - High quality text, multiple fonts, with spooler; dot matrix printers.
☐ LASERJET FONTS / II (471 & 472) - (2 disk set) More fonts for HP Laserjet-Plus / II.

SPREADSHEET

☐ PC CALC + V1.0 (537-539) - (3 disk set) Complete Spreadsheet. Buttonware.
☐ LOTUS 123 TUTOR (177) - Beginning tutorial for Lotus. Requires Lotus 123.
☐ AS EASY AS V3.0 (302) - Lotus clone. Supports functions of 123.

UTILITIES

☐ DISK COMMANDO V2.0 (218 & 219) -(2 disk set) Norton Advanced Utilities Clone. Recover deleted files, disk optimizer, etc., too many features to list.
☐ SIM-CGA (220) - Great for programs that need color (CGA) to run.
☐ DOS TUTORIAL V4.2 (256) - Menu driven tutorial; learn to compute.
☐ AUTOMENU V4.01 (280) - Access programs, batch files, DOS commands, etc.
☐ HOMEBASE V2.5 (528-530) - (3 disk set) - Great desktop organizer; editor / word processor, calender / appt. book, calculator, cut & paste operations, & more. Great...
☐ VACCINE (541) - Programs to protect against the "virus" & "trojan horses". NEW...

WORD PROCESSING

☐ ON-SIDE (560) - "Sideways" printing, with multiple fonts, up to 175. NEW...
☐ PC-WRITE V2.71 (9 & 10) - (2 disk set) Full featured word processor; dictionary, spell checker, etc., all the features of the expensive one's.
☐ LETTERHEAD (69) - Create and print your own letterhead on letters and envelopes. IBM / Epson comp. printer required.
☐ GALAXY V2.3 (11) - Easy to use word processor; menus & quick keyboard commands. Lots of features.

NAME ____________________
ADDRESS ____________________
CITY ____________ ST ______ ZIP ______
PHONE (______) ____________

Minimum order 3 disks.
Buy 10 disks get eleventh *FREE*
Offer valid only with this coupon
# of disks ____ @ $2.99 = ______
Calif. Sales Tax (6.5%) = ______
Shipping & Handling = 3.00

TOTAL = $ ========
Mail order form & check or money order to:

PC Plus Consulting
1747 E Ave. Q #C-1, Dept. MS7
Palmdale, CA 93550
(805) 273-0300
COD Orders: by 1 pm; shipped same day
Call or write for free catalog , over 550 disks;
or visit our showroom office located at:
14536 Roscoe Bl. # 201
Panorama City, Ca. 91402
(818) 891-7930
Hours: M-Sat. 10 am - 5 pm.
3.5" media - $3.99 ea.
Sorry, we do not accept credit cards.

MTS888

Music oriented, for all computer types. Record reviews, coming events. Nice graphics.

Grey Matter BSS & RCP/M. (213) 971-6260. 300/1200/2400 24 hrs. Televideo and Timex/Sinclair support. Sysop: Ed Grey

Lynzie's Motherboard. (213) 650-0519. 300/1200/2400/9600 8-N-1 24 hrs. Matching, group and private chat system, local social events. W. Hollywood. Sysop: Lynzie Flynn

Lynzie's Motherboard. (213) 659-1982. 300/1200/2400/9600 8-N-1 24 hrs. Matching, group and private chat system, local social events.West L.A. Sysop: Lynzie Flynn

Lynzie's Motherboard. (213) 650-6172. 300/1200/2400/9600 8-N-1 24 hrs. Matching, group and private chat system, local social events. Sysop: Lynzie Flynn

The Alternative BBS. (213) 439-7044. Programmer and user forums. UP/DL. Serious PC enthusiasts or professionals only please.

The Midnight Express. (213) 874-1022. 300/1200 24 Hrs. Unlimited E-Mail, Land of SPUR. Modifies GBBS Pro System.Games, stock exchange, quizzes and surveys. Sysop: Justin Case

Loan Master BBS. (213) 372-4050 8-N-1. Daily mortgage rates for those purchasing a home or refinancing. Type GO LOAN upon entry. Sysop: American TeleWeb.

Beta RBBS. (213) 393-9777. 1200/2400. Free entertainment BBS. Audio, video, DJ, music, movies, news and discussions. Sysop: Jason Lin.

Online Goldmine. (213) 860-5649 for 300/1200; (213) 860-3570 for 1200/2400. 7-EVEN-1 24 hrs. Classifieds, electronic yellow pages, messaging, trivia and horoscope. PRESTEL Graphics protocol available upon registration.

The Backroom BBS. (213) 920-2113. 300/1200/2400/9600 8 bit 24 hrs. Very Mac, also Apple II and MS/DOS. WWIV v4.0 software. Supporting WOCMUG, CSPG and MACPAC. Sysop: Byte Knight.

Hughes Jobs. (213) 372-4050, 8-N-1, 24 hrs. Job opportunities at Hughes, support systems in Long Beach. Type GO HUGHES upon entry. Sysop: American TeleWeb.

Loan Master BBS. (213) 372-4050, 8-N-1. Daily mortgage rates for those purchasing a home or refinancing. Type GO LOAN upon entry. Sysop: American TeleWeb.

Rockwell NAAO Jobs. (213) 372-4050, 8-N-1. Includes online job listing and a resume drop. Type GO ROCKWELL upon entry. Sysop: American TeleWeb.

Easy Reader Electronic Edition. (213) 372-4050, 8-N-1. Free online publication. Includes movie times, editorial, 500 new classifieds each week and more. Online ordering of classifieds and letters to the editor allowed. Sysop: American TeleWeb.

312

Feminist BBS. (312) 383-2059. 300/1200 24 hrs. Lively discussion, everyone welcome. Michelle Frost.

408

Bay Area Atari. (408) 249-7722. 300/1200 24 hrs.

Bay Area BBS. (408) 723-7238. 300/1200/2400 Several "live" doors including adult & X-rated. Sysop: Jim Acker

Byte Bandits of America. (408) 374-3974. 300/1200 24 hrs. Free. MS-DOS Sysop: Sam C. Brown

BYTE Bandits of America - TRS 80's. (408) 374-5139. 2 monthly meetings in Campbell, CA

Campbell Chapter of 64/More Commodore. (408) 946-6154.

Cupertino Chapter of 64/More Commodore. (408) 946-6154.

Dial-Your-Match #296. (408) 720-0724. 300 8-N-1 24 hours Sunnyvale. Matching and e-mail.5 boards. Verification required. No fees.

Digit Mailbox. (408) 946-6154. 3-9600 24 hrs. All welcome. Amiga run. Official 64/MORE BBS.

Matchmaker San Jose. (408) 248-5755. 300/1200 24 hrs. The ultimate pen pal system. Make a date, meet a friend, have the time of your life. Type "mm" at login. 300 plus calls/day. Sysop: The Matchmaker

Non-Smokers BBS. (408) 298-4277. 300/1200/2400 8-N-1 24 hrs. Restaurant/hotel guide. Health information.

North Valley Chapter of 64/More Commodore. (408) 946-6154.

Pacific Exchange Multi-line. (408) 946-8561. 1200/2400. Large IBM file selection, conferences, multi-node chat.

PC-Shareware. (408) 270-4084. 1200/2400 8-N-1 24 hrs. Registration required. Dedicated to shareware for IBM PC. Over 50 megs of most popular & latest available. Sysop: Bob Allen

Public Domain Software Special Interest Group (PDS-SIG). (408) 270-4085. 1200/2400 8-N-1 24 hrs. One of largest selections of PD & shareware PC software.Over 250 megs. of files. Registration required. 64 directories.

San Jose Chapter of 64/More Commodore. (408) 946-6154.

Silicon Valley FOG. (408) 738-1071. 300/1200/2400 8-N-1. Message system & 42 Megs of CP/M & MS-DOS files. Sysop: Bob O'Connor

ST Hotline. (408) 244-2493. 9600 24 hrs. Atari ST only. 110 Meg hard disk.

Stock Market. (408) 733-9341. 300/1200 8-N-1 24 hrs. Provides precise, reliable price forecasts for 6000 NYSE, AMEX & OTC (NMS) stocks. Multi-line, multi-user system.

S-100. (408) 262-5150. 300/1200/2400 8-N-1. CP/M & MS-DOS libraries.

The Dungeon. (408) 992-0846. 300/1200 8-N-1 24 hrs. All adult, registration required. Sysop: Sir Dep

The Guild. (408) 988-4004. 300/1200/2400 24 hrs. 160 MB online. Hardware SIG's, BBS info, Professional Certification Testing. Sysop: Nat'l BBS Soc. Staff

Timex/Sinclair BBS of Silicon Valley. (408) 735-7390. 300/1200 8-N-1 24 hrs.

Towards 2000!!. (408) 773-9759. 300/1200 8-N-1 24 hrs. IBM oriented. No Fee. Message base. Sysop: Keith Proctor/Chris III

TRS-80. (408) 374-5139. 300/1200 24 hrs. Tandy. Free. Sysop: Sam C. Brown

Gavilan User Group. (408) 374-5140. 300/1200. Portables. Free. Sysop: Sam C. Brown

Hotel California. (408) 942-1081. 300/1200 8-N-1 24 hrs. Commodore, Punter D/L. Sysop: Big Foot

LDW Line. (408) 435-1929. 300/1200 8-N-1 8 PM-9 AM. Official BBS of LDW, Inc. features new prod. bulletins, LDW BASIC programer's support, ul/dl, & free spreadsheet for eval. Sysop: Bogdan Blaszczak

PDS-SIG. (408) 270-4085. 2400 8-N-1. Largest selection anywhere of pub. domain & shareware software.

SBUG-BBS. (408) 249-8259. 1200 8-N-1 24 hrs. Membership in SBUG (or registration fee req'd.) Sysop: Jim Gonsalves

The Student's Board. (408) 629-9678. 300/1200 8-N-1 7:30 to 10:30.

PD files, Conference, SIG, All welcome, even if you're not a student. Sysop: Gary Dennis

Topaz BBS. (408) 263-0317. 300/1200/2400 8-N-1 24 hrs. Literature, poetry and personals. Free. Suggestions welcomed. Sysop: Brenda Tyler

Shrink Tank BBS. (408) 257-0323. 300/1200 24 Hrs. Psychological theme. All users welcome. Mental health and other professional are encouraged to call. Free. Sysop: Dr. Skip Bischoff

Teleplay. (408) 262-4488. 300 A computer gaming club. Multi-user, interactive, fantasy role-playing. Also: (408) 293-4970. Voice: (408) 262-4942

Hot City. (408) 758-8334. Commodore with CBM color/graphics. Salinas.

Amiga Exchange. (408) 375-1823. Amiga, Commodore. Runs Opus.

AMME jr. (408) 899-1219. Commodore. CBM color/graphics.

Apple SMUG. (408) 384-0148. Apple.

Beo's Club 21. (408) 899-5169. Fun board, all welcome.

The Exchange. (408) 659-3078. Geneology mainly. Also IBM.

Hacker's Heaven. (408) 375-5455. Sponsored by Pro-Log Corp. Supports STD-Bus, MS-DOS, CP/M.

Jumpin. (408) 394-8842. Operated by Monterey Area PC-jr. Users Group.

User's Port. (408) 394-3917. Commodore with CBM color/graphics. Runs C-Net.

The Student's Board. (408) 227-2741 8-N-1. 1200 24 hrs. Nine conference areas, several hundred PD files, multi-player on-line games, free but registration required. Created for students but has many topical areas. Sysop: Gary.

The Strong Hold. (408) 338-6220. 24 hrs. 80 games on line, over 50 megs. Sysop: Spuds MacKenzie

Comp-U-Ease. (408) 286-8332. 24 hrs. Multi-line, engineering, ACAD, LAN. No games or picture files. Sysops: Stuart Smith and Ed Hwang.

Liberty Bell BBS. (408) 243-1933. 300/1200/2400 24 hrs. Discussion of current events/issues relevant to libertarians. Private areas for libertarians, public areas incl. EchoMail and NetMail. Sysop: Bob Bickford.

Soquel BBS. (408) 462-6329. 300/1200/2400 8-N-1 24 hrs. Sysop: Dick Steele.

PC3 BBS. (408) 263-9015. 1200 8-N-1 7 days. PC3 product info. Sysop: Bill Todd.

Computer Tyme Gap BBS. (408) 732-2353. 2400 24 hrs. 7 days a week. Alpha site for Gap BBS software. Sysop: Gary Araki.

Western CBoard. (415) 664-2067. 300/1200/2400 8-N-1 24 hrs. Programmers information, Pascal, C, dBase, Assembler. Sysop: Robert Baker.

SCRIBE (M). (415) 256-1389. 300/1200 8-N-1 24 hrs. All computers welcome, but call often to remain active.

SIGSIG. (415) 968-7369. 300/1200/2400 24 hrs. MS-DOS & CP/M files, 108 MB online, messaging and more. Featuring Auntie BBS software. No fees, immed. access. Sysop: Jim Switz.

SFPCUG. (415) 621-2609. 1200/2400 8-N-1 24 hrs. IBMs, clones and compatibles. Message board/info exchange. 100's dl files. Call (415) 221-9166 for recorded info. Sysop: Richard Couture

SuperResume Fido. (415) 546-0119. 300/1200 8-N-1 24 hrs. A free resume composition and career strategy service for software engineering professionals. Job listings. Voice: (415) 788-6000.

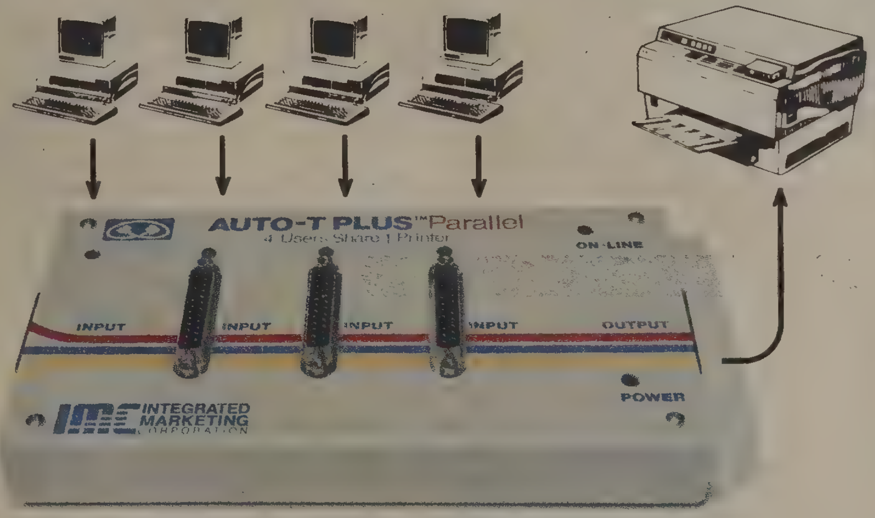
Bunny Bell BBS. (415) 651-6988. 300/1200 8-N-1 24 hrs. Registration required. C-64 oriented/operated. Messages, story board, war room, dating, merchandise section. Voting, archival backups for C-64, U/L and D/L of PD.

Easy Access BBS. (415) 829-6027. 300/1200/2400 8-N-1 Sysop: Tony Waddell.

THE FASTEST PERIPHERAL SHARING DEVICE IN THE WORLD*!!!

AUTO-T PLUS Parallel
AUTO-T PLUS Serial
4 Users Share 1 Printer—with Softspool software
AUTO-T PLUS
NETWORKS
MADE IN U.S.A.

AUTO-T PLUS


AUTO-T PLUS™Parallel
4 Users Share 1 Printer
ON-LINE
INPUT
INPUT
INPUT
INPUT
OUTPUT
POWER
INTEGRATED MARKETING CORPORATION

4 USERS SHARE 1 PRINTER
Serial or Parallel

...with Softspool

WORK WHILE YOU PRINT...
Softspool™ prints "in the background" so you can keep working while Softspool™ handles the printing.

PLUG 'n PLAY SOFTWARE...
Nothing to learn—just load Softspool™ onto your system and never worry about it again.

FASTER PRINTING...
Softspool™ supports 'super fast' baud rates like 19.2K baud, so you can run your serial port at top speed for faster printing.

UNLIMITED BUFFER SIZE...
Softspool™ buffers to hard disk so you can make your printer buffer as large as you like.

PRINT TO DISK FILE...
With Softspool™ you can capture a print job and save it to disk for later use.

PRINT MULTIPLE COPIES AUTOMATICALLY...
While you work, Softspool™ will print up to 255 collated copies of any print job.

MADE IN U.S.A.

$500 Value For $149*

*Introductory price. Suggested Retail: $195.

Now, there is an alternative to printer sharing devices costing $500 or more: The Auto-T Plus with Softspool.

Transparent to the user and easy to install, the Auto-T Plus cost per user is little more than the price of a cable – yet offers features found only in costly buffered devices.

***Time To Buffer 200K Graphics Job 15 Seconds!!!**

Call for Local Dealer.
OEM & Corporate Inquiries Welcomed.

800-537-5999

Integrated Marketing Corporation
INTERFACE TOOLS

1031H East Duane Avenue, Sunnyvale, CA 94086
Telephone: (408) 730-1112
Telex: 5106018576 FAX: (408) 730-1452

Manufacturing & Marketing of "Interface Tools."

COMPUCAL, Inc.
13400 S. Prairie Avenue
Hawthorne, CA 90250
FAX (213) 675-5350

SYSTEMS

IBM
IBM MODEL 25 SYSTEM $1075
IBM MODEL 30 1DR, 20MB HD 1750
IBM MODEL 50 1DR, 20MB HD 2695
IBM MODEL 60/80 . . . . .3295/CALL
IBM PROPRINTER II/XL/X24. . . . . . . .CALL
QUIETWRITER II/III PRINTER . . . . . . .CALL

APPLE . . . . .CALL
MAC SE/PLUS/II . . . . .CALL
IMAGEWRITER II. . . . . .CALL

COMPAQ
COMPAQ 386 20MHz (NEW) $5575
COMPAQ 286 MODEL 1/20/40 FROM 1695
COMPAQ PORT III, 20MHz. . . . . .CALL
COMPAQ PORTABLE II MODEL 4 . . . .CALL
COMPAQ PORTABLE II MODEL 2 . . . .CALL

386 MACHINES
ALR 386. . . . . *CALL
AVAREX 386, 16 MHz. 1995
ACER 386 .CALL

AST
AST 286 80/140. . . . . $1650/2650
AST 386 340/390. . . In Stock FROM 4195
AST TURBOLASER EL/PS PRINTER. . .CALL

NEC
NEC MULTISPEED 640K 2DR $1299
NEC MULTISPEED EL SYSTEM (NEW) .1650

TOSHIBA
T-1000/T-1100 . . . . $775/1495
T3100/T3200 . . . . .2995/3675
T5100 4995

ZENITH
ZENITH Z-181/Z-183 . . . . $1650/2295

EPSON
EPSON LX800 . . . . $235
EPSON FX86e/286e 330/465
EPSON EX800/1000. . . . . .425/525
EPSON LQ850/1050. . . . . .CALL
EPSON LQ500/LQ2500. . . . . .CALL

OKIDATA
OKIDATA 192+/193+ $350/499
OKIDATA 292/293 W/MODULE. . .525/650
OKIDATA 294/393 . . . . .CALL
LASERLINE 6 128K 1575

HEWLETT PACKARD
HP LASER JET SERIES II, 512K $1650
HP SCANJET W/INTERFACE. 1399
HP DESKJET 799
HP PAINTJET/PLOTTER . . . . .CALL

CITIZEN
CITIZEN 120D/180D $199
CITIZEN MSP 15E 375
CITIZEN MSP 40/45/55. . . . . .CALL
CITIZEN TRIBUTE 224 699
OTC PRINTERS 750/850 CPS . . . . . .CALL

TOSHIBA
P321SL/P341SL. 499/699
P351/351SX . . . . .CALL

MONITORS
AMDEK CGA/EGA/VGA . . . . .CALL
SAMSUNG CGA/EGA 275/399
NEC MULTISYNC II/PLUS/XL. . . . . . . .CALL
SONY 1302/1303 . . . . .CALL
DESKTOP MONITORS . . . . .CALL

ACCESSORIES
MODEMS 1200/2400 INT/EXT . .FROM 99
HARD CARD PLUS 20MB/30MB. . . . .CALL
SEAGATE HD 20/30/40 . . . . .CALL

NOVELL AUTHORIZED DEALER

DELTA GOLD
Introducing new Complete System
Elite (8088). . . . . .from $799
Prestige (80286). . . . .CALL
Premier (80386) . . . . .CALL

All Systems Include Monitor, Database, Wordprocessing, Spreadsheet, Comm. & GW Basic/MS DOS Software, Video Cassette for Tutorial

90 Days Financing . . . No Payments No Interest
*Prices subject to change without notice.
We Carry All Applications Software
(213) 675-0115

Zenith NEC Toshiba Everex Okidata Citizen
Ast Epson IBM Toshiba Compaq Hewlett Packard

Small Business Connection. (415) 898-3620. 300/1200 8-N-1 24 hrs. For people with a small business or who want to start one. Member/private electronic mail, PD software/shareware; (415) 898-3620 for info.

Christian BBS. (415) 388-4801. 300/1200/2400 N-8-1 24 hrs. Free to all. Sysop: Bill Sievert.

VRS BBS. (408) 757-6683, 300/1200/2400, 24 hrs. For IBM and others. We may have just what you're looking for. Sysop: Dikran Garabedian.

The Student's Board. (408) 227-2741. 8-N-1. 1200, 24 hrs. Nine conference areas, several hundred PD files, multi-player on-line games, free but registration required. Created for students but has many topical areas. Sysop: Gary.

415

ABACUS - Atari Bay Area Computer Users Society. (415) 587-8062. 300/1200 24 hrs. Free messages and downloads for 8-bit & ST users. Sysop: Ed Van Pelt

AIDS BBS. (415) 626-1246. 300/1200 24 hrs. Free. All welcome. Mail send/receive on AIDS: please not on other subjs. due to time & access limitations. Library. Sysop: Ben Gardiner

Amiga Addicts Anonymous (AAA). (415) 222-9416. 300/1200 24 hrs. Amiga Chat & Pub. Dom. files. Sysop: Randy Spencer

AUGment - Amiga Users Group of Silicon Valley. (415) 659-9169.

Back Door. (415) 756-6238. 300/1200/2400 8-N-1 24 hrs. Alternative lifestyles information. IBM clone library. Voice validation required for access.

Bay Area's Luv Connection. (415) 387-0529. 8-N-1. Multiline private chat, matchmaking, E-mail, SIG's & numerous pub. boards.

Boot to the Head. (415) 352-5411. 300/1200 8-N-1 24 hrs. Multiplayer games only. Pyroto, Tradewars Taskforce & more.

Catholic Information Network - Santa Clara County. (415) 967-3420. 300/1200 8-N-1 6 PM-8 AM. PC pursuitable through (408) through Santa Clara BBS. No access charge. People of all faiths welcome.

Catholic Information Network - SF. (415) 387-3251. 300/1200 8-N-1 24 hrs. PC pursuitable. Active conferences. Simple registration, no access charge. People of all faiths welcome.

Charisma. (415) 349-6576. 1200/2400 8-N-1 24 hrs. Paradox, dbase, IBM utics. 3500 files. Sysop: Tom Swegles

Commodore Connection. (415) 458-1005.

Dial-Your-Match. (415) 964-3255. Mountain View.

Dial-Your-Match. (415) 991-4000. Daly City.

Dial-Your-Match, #34I. (415) 537-0666. 300/1200 24 hrs. Nationally networked, meet the 250 callers in the date-a-base. Sysop: Matchmaker 2

Dr. Don's. (415) 885-1973. 1200/2400 24 hrs. Discussion; ComputerTalk; BMW-CarTalk; SportsTalk; BoardRoom. Sysops: Dr. Don, Bimmer Pilot

Epson Users of SF Bay Area. (415) 467-2780.

Family Radio Forum - Oakland. (415) 562-5483. 300/1200/2400 8-N-1 24 hrs. Download pub. software & entire bible texts. Echo conferences on parenting, teens, singles, etc. Christian BBS for all. Sysop: Richard Yim

Family Radio Forum - Sacramento. (415) 562-5483. 300/1200/2400 8-N-1 24 hrs. Download pub. software & entire bible texts. Echo conferences on parenting, teens, singles, etc. Christian BBS for all. Sysop: Richard Yim

Family Radio Forum - San Jose.(415) 562-5483. 300/1200/2400 8-N-1 24 hrs. Download pub. software & entire bible texts. Echo conferences on parenting, teens, singles, etc. Christian BBS for all. Sysop: Richard Yim

File Exchange. (415) 647-0505. 300/1200 8-N-1 24 hrs. MAC-based, mostly MAC but other types of computers welcome. Discuss problems & tips related to various programs.

Fremont Area Remote Terminal. (415) 791-2961. 300/1200/2400 24 hrs. MS-DOS & color computer downloads. Free!

Guideboard. (415) 864-3858. 300/1200/2400 24 hrs. Cabbie's Guide to SF. Where to go for restaurants, doctors, auto repair, etc. Resident Astrologer: Swami Tommy. Sysop: Dick Schwartz

Henari. (415) 855-9548. 300/1200/2400 BBS serving the Bay Area Jewish Community, linked to Israel via FidoNet.

MacCircles. (415) 484-4412. 2400 8-N-1 24 hrs. Files; support; congenial conversation. Sysop: Patricia O'Connor

MailCom. (415) 855-9548. Silicon Valley's 1st Mac BBS on FidoNet. Part of EchoMac & BayMac Network. 90 megs, FidoNet/USENET connections.

Med-Link. (415) 845-8649. 300/1200/2400 8-N-1 24 hrs. Medical, health, computer topics.

Model 100, 102, & 200 Support. (415) 939-1246. 300/1200 8-N-1 24 hrs. Ongoing support for Tandy/Radio Shack Model 100, 102 & 200 owners. Int's support by mail, voice, & BBS.

Mouse-Trap. (415) 969-5486. 300/1200/2400. MS-DOS; files; messages; on-line games.

Nightengale. (415) 731-2422. 300/1200. A nursing BBS open to all. XT/PC clone MS-DOS.

Open Campus. (415) 895-0135. 300/1200/2400 24 hrs. GBBS/CMS sys. op. by San Leandro HS/Apple Eaters UG. 30 MB, 34 message bases; CMS intersys. E-mail. Library, downloads. Sysop: Robert Shayler

POPnet Berkeley. (415) 527-4510. Multi-line fun & games for all. Not free but cheap.

POPnet San Ramon. (415) 830-1191. Multi-line fun & games for all. Not free but cheap.

POPnet Walnut Creek. (415) 932-4263. Multi-line fun & games for all. Not free but cheap.

Program/Land. (415) 327-6197. 300/1200/2400 24 hrs. Pub. domain BBS - supports all telecommunication protocols. Alt. BBS - (415) 327-6198. Sysop: James Arnold

SF Robotics Society. (415) 752-7228. 300 24 hrs. Extensive robotics & hardware bibliography. Calendar of events.

SFPCjr. (415) 997-4874. 1200 8-N-1 24 hrs. Sysop: Larry Buoncristiani

SFPCUG. (415) 621-2609. 1200/2400 8-N-1 24 hrs. Emphasis on IBM & compatibles. Message board & info exchange. Dozens of downloadable files. Sysop: Richard Couture

SNLNDRO. (415) 895-1785. 300/1200 N. Cal HUB for CMS School Network. Op. by San Leandro HS for CUE & educators. 5MB. Sysop: Robert Shayler

Telenaut DIBBS. (415) 388-4007. 1200/2400 8-N-1. The Graphics Meeting Place where professionals from graphic arts, publishing & computer graphics meet. MS-DOS software.

The Apocryphal Code. (415) 347-2618. 300/1200 8-N-1 24 hrs. Sysop: Dave Brody

The DogLab. (415) 594-9806. 2400 24 hrs. Large file library; several echomail conferences.

The Flea Clinic. (415) 592-4060. 2400 24 hrs. Large file library; several echomail conferences.

The Pilgrim. (415) 731-2422. 300/1200. Spirituality, Catholic nursing. Spiritual development for homosexuals from a Catholic perspective. Oriented to UCSF.

The Switch. (415) 578-1919. 300 24 hrs. Free online entertainment, brought to you by Interactive Productions.

The Wasteland. (415) 479-4520. 300/1200. Debate, discuss & intellectualize. Private mail, computer SIG's. Friendly Sysop.

T-Room. (415) 756-6235. 300/1200/2400 8-N-1 24 hrs. Alternative lifestyles information & fun. Macintosh library. Voice validation required for access.

Video Vision - The Graphic Library. (415) 366-6409. 300/1200/2400/9600 8-N-1 24 hrs. A color BBS mainly for graphics, arts & games. User must read bulletin 1 or download "POLICY.TXT" and FILELIST.ARC". Sysop: Roel Sarceno

Wetware Diversions. (415) 753-5265. 300/1200/2400 24 hrs. Multi-line, UNIX based system for conferencing & gaming. Running PicoSpan. Sysop: Christopher

YET ANOTHER BULLETIN BOARD!. (415) 689-8952. For IBM's & TRS-80's. Novices welcome! Sysops: Jim & Alex Stewart

CIRACS Network. (415) 463-2185. 300/1200 24 hrs. SIG to human service providers working in youth, drugs, alcohol & AIDS prevention & treatment. Sysop: Janet Morgen, MPH

Emerald Lake Fog #48. (415) 365-2650. 300/1200/2400. No fee; immediate access, CP/M & DOS.

Foothill College Science And Engineering BBS. (415) 941-5725. 300/1200/2400 24 hrs. Educational Program Information. Sysop: Long Tran

Kortek. (415) 327-4589. 110 to 9600 8-N-1 24 hrs. PD BBS for IBM & MS-DOS computers. Free. Looking for new members with new ideas to be a better board.

Marin-Sonoma PC Users Group (MSPCUG). (415) 927-1216. 300/1200/2400 24 hrs. IBM PC software & talk. Biz application oriented, official electronic voice of one of most influential user groups.

Railbird's Racing BBS-100. (415) 278-0767. 300 8-N-1-E 3-8 AM. Offering Dialy handicap of races we feel we can beat. Trouble & Lasix list too. News on sports & much more!

Video Seven Bulletin Board. (415) 656-0503. For owners of Video Seven VEGA graphics products. Updates and Support.

Recovery BBS. (415) 441-2539. 300/1200/2400. Message sections include Alcoholics Anonymous, NA, CA, Alanon/ACA, SA, SLAA & others.

tsunami bbs. (415) 726-2726. 300/1200/2400 24 hrs. Graphics compatibility theme. GIFs, MacPaints, etc. Free!

Everex Technical Assistance BBS. (415) 683-2924. 300/1200/2400 8-N-1 24 hrs. For Everex products. Oriented toward helping programmers write software that takes advantage of Everex's special features.

SFPCUG BBS. (415) 621-2609. 1200/2400 8-N-1 24 hrs. Emphasis on IBM & compatibles. Initial log-on open, thereafter open only to group members. Phone(415) 221-9166 for SFPCUG info. Sysop: Richard Couture

Earth-Rite BBS. (415) 651-9496. 300/1200 8-N-1 24 hrs. Forum for New Age, Eastern and Pagan philosophies and religions. Non-traditional philosphical and religious discussions.

Dail Your Match #56A. (415) 964-3255. 300 8-N-1 24 hrs. E-Mail, 5 public boards, match functions. No Fees.

The Billboard. (415) 686-

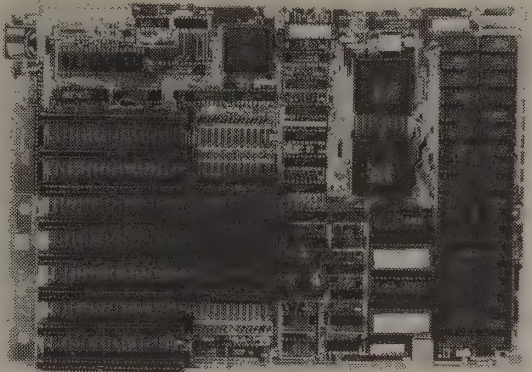
Looking for Quality and Low Prices?

NCC
National Computer Company
17981 Sky Park Cir., Ste. F
(Facing Main St.) Irvine
Hrs: M—F 9-7, Sat. 10-5

(714) 852-1086 FAX (714) 852-1486

UPGRADE YOUR IBM PC-XT TO A SUPER AT 12MHz !!

- * KEEP ALL YOUR PRESENT XT CARDS, CONTROLLERS, DRIVES, POWER SUPPLY... INCLUDING XT KEYBOARD
- * DIRECT REPLACEMENT FOR ORIGINAL IBM/XT MOTHER BOARD
- * INCREASE PERFORMANCE LEVELS FOR IBM PC/XT
- * INCREASE SPEED AND MEMORY FOR IBM PC/XT



FEATURES:

- ● 80286 16 BIT PROCESSOR 12 MHz CLOCK SPEED
- ● 80287 MATH CO-PROCESSOR SOCKET
- ● EXPANDABLE TO 1MB MEMORY ON BOARD
- ● MEMORY PARTITION: 512K; 640K; 512K & 512K; 640K & 384K
- ● EIGHT 8 BIT AND FOUR 16 BIT EXPANSION SLOTS
- ● DUAL SPEED 6&12 MHz, HW & SW SELECTABLE
- ● POWER LED / TURBO LED / TURBO SWITCH / KEYLOCK / RESET EXTERNAL BATTERY
- ● AWARD'S LATEST V3.03 WITH SETUP
- ● Z - POACH 2 CHIPS SET
- ● OS/2 COMPATIBLE
- ● NOVELLE AND TOKEN-RING COMPATIBLE
- ● NORTON SI — 13.3
- ● ONE YEAR WARRANTY PARTS & LABOR

MADE IN USA
$415
(5 or more *$405*)

BUSINESS & HOME POWERFUL START UP SYSTEM NCC 286 AT

- * Intel 80286 running at 6 and 10MHz/0-Wait
- * 512K ram on board expandable to 1MB
- * 8 I/O expansion slots
- * 200 watt power supply
- * AT-Style keyboard
- * AT case (turbo & reset switch, LEDs, Keylock)
- * AT FD/HD controller
- * 1.2 MB floppy drive
- * Clock/calendar with battery backup
- * Speed test by Norton utility: 11.5
- * High resolution graphics adapter
- * High resolution monitor

$999

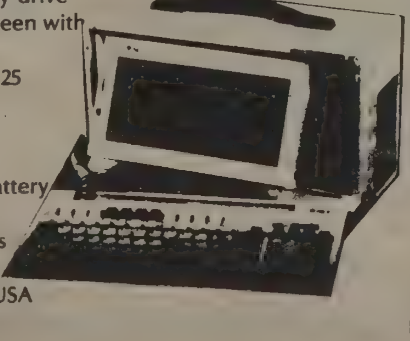
OPTION: NCC286-AT SYSTEM 12 MHz with 13.3 Norton Speed Test (MB made in USA)
*** NCC286-AT SYSTEM 16 MHz with 18.7 Norton Speed Test (MB made in USA)**
(386 performance at 286 cost)
*** System 386 - 16 MHz and 20 MHz**

NCC286 LCD PORTABLE: 12MHz

$1790

FEATURES:

- ● 80286 cpu, 6/12 MHz
- ● 512 KB RAM expandable to 1MB
- ● One 1.2 MB Floppy drive
- ● Non-glare LCD screen with back light
- ● 640x200 pixels, 80x25 characters
- ● 5 expansion slots
- ● 86-key keyboard
- ● Clock/calendar/battery back-up
- ● Parallel/serial ports
- ● 20MB hard disk
- ● Manufactured in USA
- ● 20 lbs.



HOME USER NCC88 TURBO XT START UP SYSTEM

- * Intel 8088-1 running at 4.77 and 10MHz/0-Wait
- * 256K ram on board expandable to 640K
- * 150 watt power supply
- * 8 expansion slots
- * AT-style keyboard
- * Disk I/O (serial & parallel & game ports)
- * One 360KB floppy drive
- * Clock/Calendar
- * AT Jr. case (Leds, Turbo & reset switch)
- * Hercules compatible graphics adapter
- * High resolution monochrome monitor

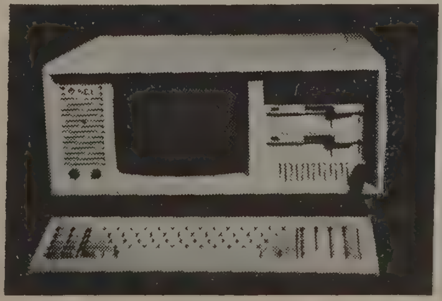
$573

NCC 286 PORTABLE: 12 MHz

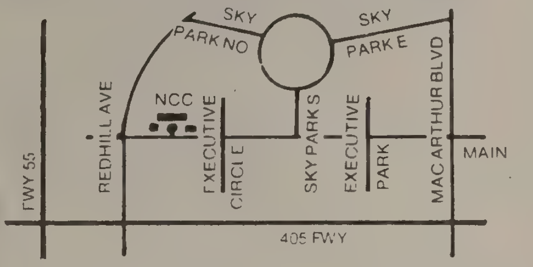
- * 20 MB hard disk.
- * Intel 80286 running at 6 and 12 MHz/1 Wait
- * 512 K Ram expandable to 1 MB
- * 1.2 MB Floppy Drive
- * Monochrome monitor
- * 8 Expansion slots
- * Detachable 86-key Keyboard with 12 function keys.
- * 200 watts power with fan

$1489

OPTION: NCC286 portable model DT3, 19 lbs, now available



SALE & SERVICE & REPAIR



PRINTERS:

Panasonic 1080 i II 144 cps	$179
Panasonic 1091 i II 192 cps	$ CALL
Panasonic 1592 132 colum	$399
Epson LX 800 180 cps	$205
Epson Apex 80 180 cps	$189
Epson FX 86e 240 cps	$329
Epson FX 286 e 132 col.	$469

LOCAL AREA NETWORK, MULTIUSER AND INTERGRATED SYSTEM

Consulting and Hardware, Software Set up

This month's special:

Seagate 40MB St 251	$399
Vega Delux graphic card with software	$209
Panasonic 1091i 192cps	$199
Epson Apex 80 180 cps	$189

FREE AC SURGE PROTECTOR
with any system purchase

Dealer's Consultants' Inquiries Are Welcome

MODEMS

1200 Band Internal	$72
2400 Band Internal	$150

Software with purchase of any system

MS DOS ver 3.21	$82
MS DOS ver 3.3	$98
Ability package:	$30

Word processing, spreadsheet, communication, presentation, versatile, professional business graphic.

- * ALL SYSTEM ARE FULLY ASSEMBLED AND TESTED IN USA
- * ONE YEAR LIMITED WARRANTY ON PARTS & LABOR
- * ALL SYSTEMS UPGRADE WITH OPTIONS AVAILABLE

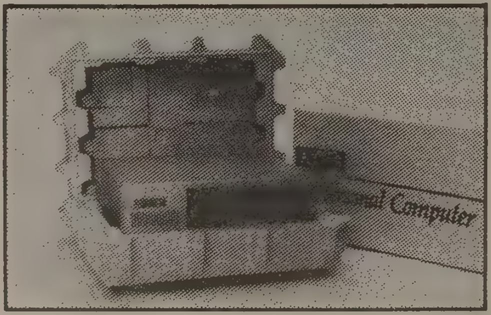
- ● Prices reflect cash discount only
- ● All goods are brand new and guaranteed
- ● Add 3% for credit card purchases
- ● Memory cost surcharge may be applied to all systems due to exchange rate variance
- ● Schools, Corporations and Universities call for TERMS
- ● Shipping and handling additional.
- ● Prices subject to change without notice

Financing and Leasing
Program available
(90 days interest Free)

MasterCard VISA

Computer Packaging Now!

Complete Packaging System For AT® & XT® Compatible Computers Now In Stock



- Complete Package Includes Top & Bottom Molded Shell, Molded Keyboard Endcaps & Attractive IBM Styled Container
- All Packs Meet/Exceed UPS Shipping Standards
- Designed & Drop Tested Using Triaxial Accelerometer Method To USTA Standards
- Our 23 Years Of Molding Expertise Guarantees Quality, Dependability & Value

marko
foam products, inc.
"The Computer Packaging Specialists"

2361 Industrial Parkway West
Hayward, CA 94545
415/782-3011

1411 So. Village Way
Santa Ana, CA 92705
714/835-6441

2500 West 1100 South
Salt Lake City, Utah 84104
801/972-1354

4338. 300/1200 2AM to 8PM. In Concord, CA. Mostly Mac, but open to others. Red Ryder host. Great support, files, message areas. Sysop: Bill Maginnis

Bytes Are Us. (415) 489-2236. 300/1200/2400 8-N-1 24 hrs. MS-DOS only, Free. Union City. Sysop: Burke Telford

Matchmaker #417.(415) 843-8788. 300 24 Hrs.Sysop: Matchmaker

SuperResume Fido.(415) 546-0119. 300/1200 8-N-1 24 Hrs. A free resume compositon and carrer strategy service for software eng. professionals. Job listings. Voice: (415) 788-6000.

Western C Board. (415) 664-2067. 300/1200/2400 8-N-1 24 Hrs. Dedicated to programming languages: C, Pascal, Assembler, Prolog. Chat & private node. Sysop: Robert Baker

Dating Tree. (415) 656-1700. Adult dating subscription multi line BBS. Live chat w/16 lines. Fremont.

Buccaneer Bay Man O' War. (415) 797-9705. 300/1200 24 Hrs. Fun, information and entertainment. All computers welcome. Multi-chat. Sysops: Grey Beard and Lady.

Microworld. (415) 845-1789. Atari ST oriented, but any computer may call. Running on an ST w/30 MB hard drive. No Charge. Sysops: Damian Warner and Rick Call

Emerald Lake Fog #48. (415) 361-1847. 300/1200/2400/9600. General info. DOS and CP/M. 232 MB. Wildcat BBS. Sysops:Dick Worth and Doug Spence

COTE. (415) 924-3725, 300/1200.

AnswerLine FIDO. (415) 365-3436, 300/1200/2400, 8-N-1, 24 hrs. 70Mb of files for IBM, Macintosh, Apple II GS, Amiga. International FidoNet mail. Sysop: Gary Klein.

516

Pal-East. (516) 665-1851. 300/1200/2400 8-N-1 24 hrs. Multi-line, E-mail, live chat on-line, Public Boards & library. Geared to alternate lifestyles Sysop: Scott

619

Dial-Your-Match. (619) 428-0318. Imperial Beach.

Dial-Your-Match. (619) 741-1377. Escondido.

Dial-Your-Match. (619) 746-6751. Escondido.

707

911 Emergency Services. (707) 664-1639. 1200/2400 & 9600 Fastco 24 hrs. Oriented to emergency service employees: fire, police, EMS, & interested public. Free.

North Bay Billboard. (707) 552-9758. 300/1200/2400. IBM, Mac, Atari ST, 20 Megs. In Vallejo.

Cyborg—64. (707) 526-6464. 300/1200/2400. Online user group suporting C64, C128, Amiga. 65 MB online!

The Power Station. (707) 552-0462. 300/1200/2400 8-N-1 24 Hrs. Supports IBM & compatibles, Apple, Atari. Utilizing Wildcat.Vallejo. Sysop: Joe Martin

Carenet. (707) 778-2341. 300/1200/2400 24 Hrs. A social concerns BBS.Listing non-profit & gov't asst agencies free. Profit agencies $12/yr. Mean 18 conference as well. Sysops:Tery & Gina Gefael

Survival Forum. (707) 545-0746. 1200/2400 Fido 125/7. Topics: Medicine, Science, Ham Radio, U.N. News. 'Nam Vets,Genealogy, Survival & more.

Solano Community BBS. (707) 437-6787. 300/1200/2400 8-N-1 24 hrs. Easy access board on a national and worldwide network. Sysop: Ed Winters.

Santa Rosa Commodore Users Group BBS. (707) 526-0924, 300/1200, N-8-1, 24 hrs. Four boards, public discussion, C-64/128, GEOS, DIPLOMACY game, text files, up/downloads. Sysop: Dave Willey.

Amiga Magic Information Center. (707) 579-0523, 300/1200/2400.

Aviators Express. (707) 546-4721, 300/1200/2400.**BBS Express.** (707) 583-3586, 300/1200. Fee required.

CC-BBS. (707) 792-0963, 300/1200

Computer Chip. (707) 433-6817, 300/1200.

IT'S ALL IN THE NAME

IBM • APPLE • HP • COMPAQ
LAP TOPS • LASER PRINTERS

PCR PERSONAL COMPUTER RENTALS ®

"The Professionals in Computer Rentals"

HOURLY • DAILY • WEEKLY & MONTHLY RENTALS
Local Delivery, Installation, 24 Hr. Service, Pickup, Technical Assistance & Support.

714-843-9262
7372 PRINCE DRIVE, SUITE 101, HUNTINGTON BEACH, CA 92647

1-800-322-1001
SOUTHERN CALIFORNIA

Each Franchise is independently owned & operated. Franchise opportunities available.

COMPUTER RENTALS Anywhere℠
LOCAL ONSITE SERVICE ANYWHERE COAST-TO-COAST, FROM THE NATION'S #1 COMPUTER RENTAL NETWORK

1-800-922-8646 NATIONALLY

SATURDAY
JULY 9, 1988

COMPUTER BARGAIN SHOW

LOS ANGELES
Computer Swap

EVERY ITEM ON DISPLAY IS AVAILABLE FOR IMMEDIATE PURCHASE AT BARGAIN PRICES

LOS ANGELES
CONVENTION CENTER
LOS ANGELES, CA
1201 So. Figueroa St.

10 A.M. to 5 P.M.
Admission $5 Children Under 12 FREE For Info. Call in CA 800-433-7469

A MICROSHOWS PRODUCTION

LOW PRICE LEADER

EPSON®
(w/Nation-Wide Protection Plan)

EQUITY I+
- 360K Floppy
- 20 Meg Hard Disk
- 640K Ram
- Serial/Parallel Port
- Monochrome Card
- Monochrome Monitor
- MS DOS
- GW Basic

$1295

EQUITY II+
- 1.2 MEG Floppy
- 40 MEG Hard Disk
- 640K Ram
- Serial/Parallel/C/C
- 80286 CPU
- Monochrome Monitor
- Graphic Card
- MS DOS
- GW Basic

CALL

EQUITY III+
- 80286 CPU 6-8 10 MHz
- 1.2 MEG Floppy
- 40 MEG Hard Disk
- DOS 3.2 Mono Monitor & Graphic Card

$2195

LEADING EDGE
MODEL "D"™

CALL FOR NEW LOW PRICES

ALL Configurations In Stock!

NEW IMS Bernoulli Dual Speed

MODEL "D" IS A REGISTERED TRADEMARK OF LEADING EDGE PRODUCTS, INC.

Authorized Dealer Service Center

COMPAQ

Desk Pro 20 meg	1495
286 40 MEG	2395
386 40 meg	4195
386 60 meg/20 MHz	5650
Portable III 40 MEG	4095

CARD & MONITOR EXTRA

IBM

PS/2 model 30/20 meg	1775
PS/2 model 50/20 meg	2695
PS/2 model 60/40 meg	3495
PS/2 model 60/71 meg	3995
PS/2 model 80/40 meg	5100

MONITOR EXTRA

LAP-TOP

T3200-40	3695
Toshiba 3100-20	3100
Toshiba 1000	Call
NEC Multispeed	1395
NEC Multispeed EL	1650
EPSON	Call

WE STOCK

Houston Instruments
CITIZEN
OKIDATA
Vendex
TOSHIBA
NEC
Wyse
Calcomp
PRINCETON GRAPHICS
SONY
Everex
Acer
AMDEK
HAYES
Taxan
Mitsubishi
PC MOUSE
MICROSOFT MICE
Logimouse
Hitachi
IRWIN & ARCHIVE
TAPE BACK
Samsung

HARD DISK

Seagate 20 meg	305
Seagate 30 meg	365
Seagate 4038	495
Seagate 251	395
Seagate 4096	795
Miniscribe	Call
Micropolis	Call

SOFTWARE

Microsoft Word	239
Word Perfect 4.2	215
Lotus 1-2-3	325
dBase III +	385
Microsoft Works	135

AND MANY, MANY MORE!

NOVELL
Authorized Dealer
Netware

AST

AST 386-40 MEG	Call
AST 286 model 80	1695
AST 286 model 120	2350
AST 286 model 140	2650

CARD & MONITOR EXTRA

EPSON® PRINTERS

Epson FX86E	$345
Epson 286E	455
Epson EX800	425
Epson EX1000	489
Epson LX800	210
Epson LQ500	375
Epson LQ1000	549
Epson Laser Printer	1295
LQ850	550
LQ1050	745

WE ACCEPT LC, CASHIER CHECKS, MONEY ORDERS, VISA, MC, AmEx
3% charge on VISA, MC & American Express

COMPUTER LANE

HOURS:
M-F **9-6**
Sat **10-6**

(818) 884-8644

Show Room
22107 ROSCOE BLVD.
CANOGA PARK, CA 91304
½ BLOCK W. OF TOPANGA

CORPORATE ACCOUNTS WELCOME
CALL FOR VOLUME DISCOUNTS

Prices subject to change without notice

Compaq is a Registered Trademark of Compaq
IBM is a Registered Trademark of International Business Machines

Cyborg-64. (707) 526-6464, 300/1200.

Decor Computer Consultants. (707) 746-5820, 300/1200/2400.

Directory Assistance. (707) 538-8710, 300/1200/2400.

Earthsea. (707) 539-0227, 300/1200/2400.

Emergency. (707) 664-1639, 300/1200/2400.

Far Side. (707) 528-7902, 300/1200.

Farthest Shore. (707) 938-2997, 300/1200/2400.

Gold Coast. (707) 431-2632,300/1200.

Grapevine. (707) 546-4938, 300/1200/2400.

Graveyard. (707) 526-0193, 300/1200, 9 PM to 9 AM.

IBM PC UG of the Redwoods BBS. (707), 546-4938, 300/1200/2400.

Metropolis. (707) 528-1345, 300/1200, 24 hrs. Comic books, superheroes, science fiction, contests, fantasy, role-playing games, media forum and prizes.

Missing Link. (707) 585-0759, 300/1200.

Nite Owl Motel. (707) 823-3052, 300/1200/2400, 9 PM to 8 AM. Network.

NONVON. (707) 579-9437, 300/1200/2400. Unix game.

PC Pipeline. (707) 433-2726, 300/1200/2400.

Rapture. (707) 585-9307, 300/1200.

SCRA/HSC. (707) 527-7734, 300/1200/2400.

SCF. (707) 545-0476, 300/1200/2400. Network.

Small Babble Board. (707) 527-5699, 300/1200.

SR Computer Center. (707) 523-1035, 300/1200.

Sonoma County Atari Group. (707) 539-8889, 300/1200.

Sharp Resolutions. (707) 539-7462, 300/1200, DMG network.

Sherlock Enterprises. (707) 578-0385, 300/1200/2400.

Smurf's Village. (707) 664-3399, 300/1200. Closed from 3:00 PM to 10 PM.

Sonoma Computer. (707) 938-3805, 300/1200/2400.

Sonoma Users Group. (707) 996-7922, 300 baud.

Star Trek. (707) 792-2492, 300/1200.

Tarot. (707) 833-1805, 300/1200.

Tavern. (707) 584-3980, 300 baud.

Time Arts. (707) 576-7352, 300/1200.

The Other Woman. (707) 938-3508, 300/1200/2400.

Vis-a-Vis. (707) 575-5774, 300/1200/2400.

714

Adventurer's Castle. (714) 871-4119. 300/1200 24 hrs. Real time gaming. Sysop: William E. Hart

Amiga Friends. (714) 870-4754. 300/1200/2400 24 hrs. Run by one of S. California's largest Amiga clubs. Special interest sections, downloads, club activity information. Sysop: Scott Thayer

Bits & Pieces of Anaheim. (714) 630-8897. Amiga and IBM.

Bits & Pieces Time BPT-Main. (714) 630-8897. 300/1200/2400 24 hrs. No parity, full duplex. BBS determines baud rate by ret. key. Large software library for Commodore 64/128, Amiga & IBM. Sysop: Mike Dalton

Dial-Your-Match. (714) 825-0901. Colton.

Dial-Your-Match. (714) 773-5326. Fullerton.

Dial-Your-Match. (714) 682-8763. Riverside.

Dial-Your-Match. (714) 739-8822. Buena Park.

Dial-Your-Match. (714) 751-4860. Santa Ana.

Dial-Your-Match. (714) 857-2470. Irvine.

French Connection. (714) 858-8111. 300/1200/2400/9600. 16 multi-line BBS in Orange County. Dating service; 500 megs of software for users. Sysop: Stephen M. Cohen

Fretwork. (714) 974-7428. 300/1200 24 hrs. Punter protocol for file transfers. Commodore specific. C-TUG members's night - every Fri. Sysop: Jeff Griffith

Happy Trails. (714) 547-0719. 1200/2400 8-N-1 24 hrs. MS-DOS; Multi-user; E-mail; Downloads; SIG's; On line games Sysop: Don Inglehart

Imperial Palace of DB. (714) 860-0889. 1200 24 hrs. Commodore 64, 128.

Nebula 6. (714) 595-6577. 300/1200/2400 8-N-1 24 hrs. Write for a free newsletter. P.O. Box 1071, Walnut, CA 91788. PC-Pursuitable. Sysop: Michael Quirino

Network XXIII. (714) 548-4836. 1200/2400/9600 8-N-1 24 hrs. On-Line registration; 1500+ files; conferences; on-line games. Sysop: Jim Brandon

PC Exchange. (714) 956-5468. 2400/4200 24 hrs.

PC Exchange. (714) 956-5468. 1200/2400/9600.

PC-LAIR. (714) 839-9580. 300/1200/2400 8-N-1 24 hrs. PC-DOS; MS-DOS. Large PD software library. Sysop: Eric Drochner

Software Exchange. (714) 552-3515. 300/1200/2400 8-N-1 24 hrs. For IBM & compatibles. Over 3000 programs in 152 megs. Fastest-growing BBS in Southern California! Sysop: John Coon

The Byte Zone. (714) 491-7635. 300/1200 24 hrs. Serves all Tandy computers & many others, incl. MS-DOS. Features adventure help files, elect. mail,message bases, etc. Sysop: Franco Collino

The End of the Line. (714) 645-6581. 300/1200/2400 8-N-1 24 hrs. Running Wildcat BBS software. Pub. dom.& shareware for IBM & compatibles. Private/pub. message bases. Scorecast. data files. Sysop: Bob Kelly

TripWire TECHnologies (PCB). (714) 964-1146. 1200/2400 24 hrs. Multi-lingual operations with 7 national echo-mail areas. (Beta testing PCBmail) Sysop: William Kidd

Wellspring RBBS. (714) 856-7996. 300/2400 M-F 5 PM-8 AM. S-S 24 hrs. Medical/AIDS/Software.

Calsonic. (714) 830-5958. Password=CII. Use real names. Sysop: Kerry Williams

Toshiba BBS. (714) 837-4408. 1200 8-N-1 24 Hrs. Toshiba laptop support.

PC-LAIR. (714) 839-9580. 300/1200/2400 8-N-1 24 hrs. PC/DOS, MS/DOS. Large PD Software Library. Eric Drochner.

717

Dead Board. (717) 677-9573. Sysop: Captain Trips

800

APPLESIG on the Source. (800) 336-3366, 300/1200/2400. International Apple users group with over 700 programs. Fee. Free membership and $60 credit before June 30.

PC Pursuit. (800) 835-3001, 300/1200/2400. Registration required.

805

Success BBS. (805) 238-7359. 300/1200 24 hrs. Sysop: Larry Sarver

The Digital Dungeon. (805) 683-2436. 300/1200/2400 8-N-1 24 hrs. Open System designed to be an open forum. Primarily a conversation system. Sysops: Jerry Ash, Doug Sander

818

The Bear's Lair. (818) 988-6694, 300/1200/2400, 24 hrs. Macintosh oriented, 200Mb on line, multiple message sections. Sysop: Bruce Gerson.

916

Dial-Your-Match. (916) 275-1265. Redding.

Dial-Your-Match. (916) 736-0739. Sacramento.

24th Street Exchange. (916) 451-7179. 300/1200/2400 8-N-1 24 hrs. Opus-based system. Free access. Lge. selection pub. domain files for IBM & compatibles. Special interest areas. Sysop: Don Kuhwarth/Laura Stua

Valley On-line Shopping Network. (818) 772-4227. 300/1200 (soon to be 2400). Provides local businesses the opportunity of selling their products on-line to local and na-

Your #1 Source For Discounts!

Call Now - Toll Free 1-800-225-3034 CA.

master charge VISA

M/S Excel $295

Word Perfect Ver. 5.0 $229

Lotus 123 $297

dBase III + $369

Ventura PUBLISHER $469

SOFTWARE

• adaptive (usa), inc.	
TRACKER	.53
• aldus corp.	
ALDUS FREEHAND	.CALL
PAGEMAKER / IBM	.459
• american small business	
PRODESIGN II	.139
DESIGN CADD 3/D	.139
• ansa software	
PARADOX V.2.0	.404
PARADOX 2.0 6 USERS	.579
PARADOX 386	.595
• ashton-tate	
dBASE III +	.369
dBASE III + LAN PACK	.579
dBASE MAC	.292
FRAMEWORK II	.369
BYLINE	.179
RAPIDFILE	.237
DRAW APPLAUSE	.269
MASTER PRESENTATION GRAPHICS	.329
MULTIMATE ADVANTAGE II	.259
• autodesk	
AUTOSKETCH REG	.49
AUTOSKETCH ENH. W/8087 SUPPORT	.59
• bitstream	
INSTALLATION KITS:	
#1. MS WINDOWS KIT	.67
#2. VENTURA PUBLISHER KIT	.67
ALL FONTWARE TYPEFACES	.147
PROFESSIONAL TYPEFACES	.277
• block development	
FORM TOOLS	.57
• boeing computer services	
BOEING GRAPH	.189
BOEING CALC	.224
• borland int'l.software	
QUATTRO	.107
SPRINT	.112
REFLEX	.87
REFLEX WORKSHOP	.45
REFLEX (MAC)	.167
SIDEKICK NCP	.40
SIDEKICK PLUS	.112
SUPERKEY	.62
TURBO PASCAL W/BCD-80/87	.62
TURBO TUTOR	.45
TURBO GRAPHICS TOOLBOX	.59
TURBO EDITOR TOOLBOX	.59
TURBO DATABASE TOOLBOX	.59
TURBO GAMEWORKS	.45
TURBO LIGHTNING	.59
TURBO NUMERICAL TOOLBOX	.59
TURBO PROLOG	.59
TURBO PROLOG TOOLBOX	.59
TURBO BASIC	.59
TURBO BASIC TELCOM	.65
TURBO BASIC EDITOR TOOLBOX	.65
TURBO BASIC DATABASE TOOLBOX	.59
EUREKA EQUATION SOLVER	.95
TURBO "C" COMPILER	.62
WORD WIZARD	.44
• central point software	
COPY TO PC (IBM & MAC)	.21
PC TOOLS DELUXE	.44
COPY TO PC OPTION BOARD DELUXE	.107
• computer associates	
SUPERCALC 4	.209
SUPER PROJECT PLUS	.219
SPREADSHEET AUDITOR	.79
SUPER PROJECT EXPERT	.393
SILVERADO	.91
G/L & A/P & A/R & PAYROLL	.CALL
• dac software	
DAC EASY ACCOUNTING BONUS PACK	.95
DAC EASY ACCOUNTING VER. 2	.59
DAC EASY PAYROLL VER. 2	.42
DAC EASY BASE	.32
DAC EASY RE-PORT	.29
DAC EASY MATE	.29
• digital research	
CONCURRENT PC DOS XM	.171
CONCURRENT DOS 386 (3 USERS)	.292
GEM COLLECTION	.79
GEM DRAW PLUS V.2 W/BUS. LIB.	.169
GEM GRAPH	.167
GEM WORD CHART	.109
GEM DESKTOP PUBLISHER	.179
GEM DESKTOP	.37
GEM PRESENTATION TEAM	.257
• fox company	
FOX BASE PLUS V.2 SINGLE USER	.239
FOX BASE PLUS V.2 MULTIUSER	.342
SINGLE USER LIMITED RUNTIME	.179
SINGLE USER UNLIMITED RUNTIME	.262
MULTIUSER LIMITED RUNTIME	.291
MULTIUSER UNLIMITED RUNTIME	.371
• fifth generation	
FASTBACK PLUS	.95
• generic software	
GENERIC CADD 3/D	.178
GENERIC CADD LEVEL 3	.119
GENERIC CADD V.3.0	.57
AUTO CONVERT	.29
DRAFTING ENHANCEMENTS #2	.29
ELECTRONIC SYMBOLS#1	.29
IGES MINI OR MAINFRAME LINK	.137
FLOWCHARTS MODULE	.29
HYDROLICS MODULE	.29
BASIC HOME DESIGN	.29
COMMERCIAL & RESENDICIAL	.29
ALL OTHER SYMBOLS	.CALL
• lotus development	
LOTUS 123	.297
SYMPHONY	.419
HAL	.99
MANUSCRIPT	.359
FREELANCE PLUS	.330
LOTUS METRO	.57
• logitech	
LOGIMOUSE W/ + PACK S/W	.75
LOGIMOUSE W/ + PACK S/W & CARD "BUS"	.79
LOGIMOUSE PS/2 MOUSE	.67
PC PAINTBRUSH OPTION PACK	.44
GENERIC CADD OPTION PACK	.38
LOGITECH HI-RES MOUSE	.95
• meca	
MANAGING YOUR MONEY	.115
• microsoft	
WRITE/MAC	.100
PAGEVIEW	.35
BOOKSHELF	.215
WORD /MSDOS	.210
WORD /MAC	.221
EXCEL /MSDOS	.295
EXCEL /MAC	.221
MACRO ASSEMBLER	.88
WINDOWS V.2	.62
WINDOWS 386	.117
WINDOWS DEVELOPMENT TOOLKIT	.309
"C" COMPILER V.5	.257
QUICK "C"	.62
MULTIPLAN	.121
QUICKBASIC COMPILER	.65
BUS MOUSE W/EASY CADD	.112
BUS MOUSE W/PAINTBRUSH	.105
BUS MOUSE W/WINDOWS	.135
SERIAL MOUSE W/EASY CADD	.117
SERIAL MOUSE W/PAINTBRUSH	.105
SERIAL MOUSE W/WINDOWS	.135
WORKS /MSDOS	.119
WORKS /MAC	.177
FLIGHT SIMULATOR /MSDOS & MAC	.33
ACCESS (COMMUNICATIONS)	.139
CHART	.242
PROJECT	.277
LEARNING DOS	.33
FORTRAN COMPILER	.269
COBOL COMPILER	.412
• nantucket	
CLIPPER	.353
MC MAX /MAC	.149
• paperback software	
VP PLANNER	.44
VP PLANNER PLUS	.89
VP INFO	.63
VP EXPERT	.63
VP GRAPH	.63
• paul mace software	
MACE + UTILITIES	.49
H TEST H FORMAT	.49
GRASP	.49
• peter norton	
NORTON UTILITIES VER. 4.0	.49
ADVANCED NORTON UTILITIES	.77
NORTON COMMANDER	.39
INSIDE THE IBM PC (BOOK ⅓DISK)	.24
NORTON GUIDES / PASCAL	.44
NORTON GUIDES / ASSEMBLY	.52
NORTON GUIDES / "C"	.52
NORTON GUIDES / BASIC	.52
TWINPACK / ASSEMBLY & PASCAL	.65
TWINPACK / ASSEMBLY & "C"	.72
• software publishing	
PFS:PROFESSIONAL FILE	.132
PFS:PROFESSIONAL WRITE	.108
PFS:PROFESSIONAL PLAN	.65
PFS:FIRST CHOICE	.109
PFS:FIRST PUBLISHER	.59
PFS:FIRST PUB. ALL FONT KITS	.27
HARVARD TOTAL PROJECT MANAGER	.323
HARVARD GRAPHICS	.267
• word perfect corp.	
WORD PERFECT VER. 5.0	.229
WORD PERFECT LIBRARY REL. 2	.57
WORD PERFECT EXECUTIVE	.99
WORD PERFECT/MAC	.CALL
DATA PERFECT	.262
PLAN PERFECT	.166
• xerox corp.	
VENTURA PUBLISHER REL. 2	.469

DISCOUNT MICRO WORLD™

68 PAUL DRIVE SUITE C SAN RAFAEL CALIFORNIA 94903 ▪ 415 492 8890

Call For Programs Not Listed

Terms: Prices include 3% cash discount. Add 3% for charge card orders. Shipping on most software is $5.00. CA. order add 6% sales tax. Price and availability are subject to change without notice.

AMERICAL GROUP

The Diskette Company

100% ERROR FREE • LIFETIME WARRANTY • U.S. MAJOR MANUFACTURERS

25¢
QTY. 200
5¼" DS/DD
100 ERROR FREE
with Paper Sleeves 27¢ ea.
with Tyvec Sleeves 29¢ ea.

$35 00
5¼" DS/DD
IN WHITE BOX
DISKETTES ARE IN BOXES OF 10
INC: ANTISTATIC SLEEVES,
LABELS, TABS.
(MIN 100 DISKS OR 10 BOXES)
Special: Lots of 350 30¢ Ea.

32¢
5¼" DS/DD
INC: TYVEC SLEEVES, LABELS,
TABS
IN PACK OF 10, BOX OF 100
STANDARD PRODUCT
MIN 100

45¢
COLOR
5¼" DS/DD
UP TO 16 DIFFERENT COLORS
INC.: Tyvec Sleeves, Color Coded Labels and Tabs. Rainbow Pack available. Colors: L.Blue M. Blue, D. Blue, Gray, Red, Pink, Brown, Beige Burgundy, Yellow, White, Orange, Green, Lavender, Silver* & Gold

$1.10
MIN 25 EA
3½" DS/DD
LIFETIME WARRANTY
100% ERROR FREE
3½" DS/DD IN WHITE BOXES W/LABELS
12.50 BOX OF 10
3½" DS/DD IN PLASTIC BOXES W/LABELS
13.80 BOX OF 10

MIN 30 **90¢** EA
5¼" DS/HD
High Density For IBM AT and Comp.
INC.: Tyvec sleeves, Color Coded Labels and Tabs
IN 12 DIFF. COLORS
D. Blue, Red, Pink, Brown, L. Blue,
Gray, Burgundy, Yellow, White,
Orange, Green, Lavender
In Black Color 69¢

3½"DS/HD 1.44 MB DISK FOR IBM™ PS/2 **3.75** EA **Min.10**

3 ½ "Floppy Disk Drive

720K Capacity	$ 119.00
1.44 MB Capacity	$139.00

DISK STORAGE

DD 100 Holds 100 5 ¼"	w/Lock $8.95	SS40 Holds 40	3 ½" $6.95
DD 120 Holds 120 5 ¼"	w/Lock $11.95	SS80 Holds 80	3 ½" $10.95

Nashua

	Box of 10
5¼" DS DD	$5.10
5¼" DS HD	9.95
3½" DS DD	13.80
DATA CARTRIDGES	
DC600A	22.25
DC2000	17.90

Verbatim - A Kodak Company - ***DataLifePlus***

5¼" DS/DD $9.85 BOX
DATALIFE PLUS
TEFLON PROTECTED

5¼" DS/DD	$7.95	BOX
5¼" DS/HD	$14.30	BOX
3½" DS/DD	$14.90	BOX
3½" DS/HD	$44.00	BOX

BONUS™

3½" DS/DD	$13.50
5¼" DS/DD	$4.90
5¼" DS/HD	$11.60

wabash DATATECH

3½" DS/DD	$11.50
5¼" DS/HD	$9.95

SAME DAY SHIPPING
Dealer Quantity Prices Available
(818) 765-3040

VISA, MC, COD, Pick Up or
Send your order with check to:
AMERICAL GROUP
14200 Ventura Blvd., suite 201
Sherman Oaks, CA 91423

1. Purchase orders accepted from Fortune 500 Firms, colleges, school, government and state organizations. min purch. order $50 +10% on above prices.
2. Every product fully warranteed through Americal Group
3. On large orders- CALL US FOR A QUOTE
4. APO + FPO shipping charges: are 15% of purch. min. $6.00

ADD $4.00 shipping for first 100
Disks and $1.00 every 100 thereafter
Calif. Residents ADD 6 1/2 % sales tax
FAX # (818) 765-3887

COMPUTER SYSTEM INTEGRATORS #1 IN O.C.

CSi Since 1981

Need Help Finding the Right System For You . . .?

Let Your CSI Experts Help!

— We're Teachers, Not Salesmen! —
— Our Support is Unequaled! —
— Our Prices are Competitive! —
— We Do It Right the First Time! —

Interest Free Financing!
90 Days same-as Cash
No Down Payment

ALR-386 Computer Systems
(Rated #1 by PC Magazine)

- 16Mhz from $2095.
- 20Mhz from $2595.
- New FlexCache 386 series now available

Advanced Logic Research, Inc. • Authorized Dealer - Factory Direct Pricing

Murata M1200

High Speed Portable Desktop Facsimile Transceiver

- Built In Telephone w/10 Key Dialing Pad
- Copier Function
- CCITT Group 3 & 2 Compatible

SALE $950

AST Premium 286 Computer Systems

VGA System: Designed for High Resolution Graphics, CAD or Desktop Publishing, 1MB Memory, 40 MB Seagate Hard Drive (28 ms), Mitsubishi Diamond Scan Analog Monitor, Genoa or ATI 800x600 EGA/VGA Adapter, Software Drivers for all popular programs including Autocad, Ventura, Lotus, GEM, Windows, etc. $3295/ Lease for $105 mo.

EGA System: 1 MB Memory, 40 MB Seagate Hard Drive (28 ms), EGA Monitor, 640x350 Autoswitch EGA Card $2995/ Lease for $95 mo.

Starter System: 512K Memory, 40 MB Seagate Hard Drive (28 ms), Flatscreen Monochrome Monitor, Hercules Mono-Graphics Card $2495/ Lease for $80 mo.

• Other Systems and Peripherals Available — Call the Experts at CSI!
Authorized Dealer — Factory Direct Pricing

Leading Edge/Panasonic SYSTEM

- Model D-Turbo • 30 MB Hard Drive •
- 360K Floppy Drive • Monochrome Monitor •
- Panasonic 1080i Printer •
- Disks • Paper • CSI Tutorial Software • Cables •

COMPLETE $1489/ Lease for $47 mo.

OKIDATA Laserline™ 6 Printer

NOW $1395

15 Typeset Quality Fonts Built-In
H.P. LaserJet® Plus/II Compatible
Toner Cartridge only $29
Colored Toner Available

Apple IIgs/Magnavox System

Apple IIgs w/Keyboard and Mouse • 512K Memory Expansion • Magnavox Ultra-High Resolution Analog/Digital/Composite Monitor • 3½" and 5¼" Disk Drives • CSI Tutorial Software • $1750/ Lease for $56 mo.

LASER 128 PERSONAL COMPUTER

#1 Rated Apple IIe Compatible Computer

Laser 128 ....$380 Laser 128ex $480

CSI BUSINESS TELEPHONE SYSTEMS

SALE

INTER-TEL GLX-12 Business System

- 1 Executive Telephone Console
- 3 Standard Telephones
- 3 Line x 8 Phone Key Service Unit
- Expandable to 6 Lines x 12 Phones
- Expert Installation & Training Included

COMPLETE $1499/ Lease for $48 mo.

Featuring:
INTER-TEL
ITT
TIE COMMUNICATIONS
Panasonic
Factory Authorized Sales/Installation

COMPUTER CLASSES STARTING WEEKLY

COMPUTER SYSTEM INTEGRATORS (714) 259-8933
15012 Redhill Avenue, Ste. B, Tustin, CA 92680
Open Tues.-Thurs. 10-7 / Fri.-Sat. 10-5 / Sun.-Mon. Closed — Other Hours by Appt.
• On-Site Factory Authorized Service •
INTEREST-FREE FINANCING
Prices Reflect a 3% Cash Discount
Prices Subject To Change

(5) Frwy.
(55) Frwy
Edinger
Edinger off 55
CSI
Redhill
N
Koll Business Center

tional computer consumers. Sysop: BRAINS.

916

Phoenix Landing BBS. (916) 966-8243. 300/1200/2400. Macintosh oriented but many other computers are supported. File areas for Mac and other computers. Supports echomail conferences including ECHOMAC and BAYMAC.

Hackney's Hideout BBS. (916) 961-1042. 1200/2400 8-N-1. Includes AT&T users conference. Sysop: Rich Hackney.

Night-line Network Central. (916) 331-5043, 300/1200, 8:00 PM to 8:00 AM daily. Forum for individuals, clubs and organizations that want to network nationally with others. Sysop: Eric Thomas.

818

Fox Hole. (818) 332-3073. 300/1200 24 hrs. Home of Pervert's Palace. On-line games etc. Write for info: P.O. Box 1071, Walnut, CA 91788. Sysop: Dr. Foxe, Ultamacy

Dial-Your-Match. (818) 888-6688. Canoga Park.

Dial-Your-Match. (818) 845-5325. Burbank.

Dial-Your-Match. (818) 247-6343. Glendale.

Dial-Your-Match. (818) 954-0790. Burbank.

Dial-Your-Match. (818) 506-6300. N. Hollywood.

DELOS. (818) 242-2365. 300/1200 24 hrs. Lo-cost access or free ltd. use. Serving the Gay Community. 10 lines for chatting! Library & many public boards.

DELOS. (818) 242-1410. 2400 24 hrs. Lo-cost access or free ltd. use. Serving the Gay Community. 10 lines for chatting! Library & many public boards.

Dial-Your-Match #1. (818) 842-6900. 300/1200 24 hrs. The original dating BBS on-line since 1981. Fill out a personalized questionnaire & join the fun!

Fantasy Plaza. (818) 840-8066. Burbank.

Hard Ball PC Board. (818) 713-0420. 1200/2400 8-N-1 24 hrs. Programming conference specializing in Pascal. Huge P/D & Shareware Filebase for PC & compatibles.

LEGACY - The Law Network. (818) 990-7600. 1200 8-N-1 24 hrs. Info on Computer Law, Entertainment Law, Comms. Law. Pro bono conference for free legal advice to non-lawyers. Sysop: Richard H. Kohn, Esq.

Lynzie's Motherboard. (818) 508-6482. 300/1200/2400 8-N-1 24 hrs. Multi-interest. Social events for users. If you're looking for a discriminating BBS, this is the place to be. Sysop: Lynzie Flynn

Mysteria. (818) 353-8891. 300/1200/2400. Occult & general text files, CP/M, turbo Pascal. Sysop: Phil Hansford

Oracle. (818) 509-9681. 300/1200/2400 8-N-1 24 hrs. 9 phone lines. System password MICROTIMES for higher access. Free demo version of Oracomm BBS software. Sysop: Gary Young

Party Line. (818) 842-3322. 300/1200 24 hrs. 11 phones. The most exciting multi-user chat system in Cal.! Also, integrated matching system, up-download, chat link sys.

The Board with No Name. (818) 785-3340. 300/1200. A gay-oriented BBS. No hourly fees; no time limit w/ paid access. 16 lines.

The Board with No Name. (818) 785-6428. 2400. A gay-oriented BBS. No hourly fees; no time limit w/ paid access. 9 lines.

The Ledge PC Board. (818) 352-3620. 300/1200/2400/9600. All systems welcome, full support for IBM PC/AT compatibles.

The Software Bank. (818) 993-5516. 300 to 9600. Atari ST only. 65 megs. Node #95 of FNET. Exchg. messages & files w/users on other FNET BBS nationwide thru our network. Sysop: The Software Bank

Dial-Your-Match. (818) 785-3498. Van Nuys.

Party & Chat Line. (818) 842-3322. Burbank.

Lynzie's Motherboard. (818) 508-6482. 300/1200/2400/9600 8-N-1 24 hrs. Matching, group and private chat system, local social events. S.F.V. Sysop: Lynzie Flynn

Lynzie's Motherboard. (818) 989-3875. 300/1200/2400/9600 8-N-1 24 hrs. Matching, group and private chat system, local social events.S.F.V. Sysop: Lynzie Flynn

Fantasy Plaza. (818) 840-8066. 300/1200. Online adventure game.

Plaza Party Line. (818) 842-3322. 300/1200. Chat with 11 other callers. No hourly charges. Adult sections. Lots of women callers. Online since 1983.

Valley On-line Shopping Network. (818) 772-4227. 300/1200 (soon to be 2400). Provides local businesses the opportunity of selling their products on-line to local and national computer consumers. Sysop: BRAINS.

ASSOCIATIONS

Realtor Microcomputer UG (RUG). Meetings: 4th Thurs. 7 PM Pasadena BOR, cnr. Orange Grove & Los Robles, Pasadena, CA.

Computer Professionals for Social Responsibility. Meetings: Most third Wed. 7:30 PM UCLA. CPSR/LS focuses on computer system risk and reliability and on privacy and civil liberties issues.

LARGE BUYERS
&
SMALL BUYERS
SAVE MONEY AT EAGLE

COMPUTER PARTS, HARDWARE & CABLE

(818) 244-3191
(213) 245-2338
or 1-800-992-3191

Computer Data Switches

HIGH QUALITY ROTARY SWITCHES. ALL PINS ARE SWITCHED.

	1-9	10-UP
• 25 Pin DB-AB (1-2)	$\$29^{95}$	$\$22^{95}$
• 25 Pin DB -ABCD (1-4)	$\$39^{95}$	$\$32^{95}$
• 36 Pin Centronics-AB (1-2)	$\$39^{95}$	$\$29^{95}$
• BNC	$\$39^{95}$	$\$29^{95}$
• TWINAX	$\$69^{95}$	$\$59^{95}$

FLAT MODULAR CABLE

	4 CONDUCTOR	6 CONDUCTOR	8 CONDUCTOR
1000 FT	31^{00}/M	52^{50}/M	68^{20}/M
5000 FT	25^{50}/M	43^{00}/M	56^{00}/M
10,000 FT	22^{50}/M	38^{50}/M	49^{75}/M

"SILVER SATIN" GREY

MODULAR CONNECTORS

	4 COND	6 COND	8 COND
10 pc	2^{95}	3^{95}	4^{95}
50 pc	10^{95}	12^{95}	14^{95}
100 pc	19^{95}	22^{95}	24^{95}
1000 pc	115^{00}	135^{00}	169^{00}

MODULAR CRIMPING TOOLS

STEEL BODY WITH SOFT PLASTIC GRIPS

4 or 6 COND.	8 COND.
12^{95}	19^{95}

RS-232 to Modular Plug Adapters

Allows use of 4-6-8 conductor telephone wire for interconnection or RS-232 devices

Using telephone cable between computers and various peripherals speeds up installation, moving equipment becomes simple with snap in/snap out connectors.

EAGLE NO.	DESCRIPTION
25M-8 ......DB-25	Male to 8 Pin RJ Jack
25F-8 ....DB-25	Female to 8 Pin RJ Jack
25M-6 ......DB-25	Male to 6 Pin RJ Jack
25F-6 ....DB-25	Female to 6 Pin RJ Jack
15M-8.......DB-15	Male to 8 Pin RJ Jack
15F-8 ....DB-15	Female to 8 Pin RJ Jack
15M-6.......DB-15	Male to 6 Pin RJ Jack
15F-6 ....DB-15	Female to 6 Pin RJ Jack
9M-8........DB-9	Male to 8 Pin RJ Jack
9F-8 ....DB-9	Female to 8 Pin RJ Jack
9M-6........DB-9	Male to 6 Pin RJ Jack
9F-6 ....DB-9	Female to 6 Pin RJ Jack

1-9 .... $\$3^{95}$
10-49 ..... $\$3^{75}$
50-99 ..... $\$3^{25}$
100 up .... $\$2^{95}$

MODULAR WALL PLATES

	4 CONDUCTOR		6 CONDUCTOR		8 CONDUCTOR	
	SINGLE	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE
1-24	2^{49} ea	3^{69} ea	3^{69} ea	4^{29} ea	4^{95} ea	7^{95} ea
25-99	1^{80} ea	2^{49} ea	2^{69} ea	3^{29} ea	3^{75} ea	5^{50} ea
100 +	1^{20} ea	1^{60} ea	1^{80} ea	2^{19} ea	2^{50} ea	3^{80} ea

SINGLE

DOUBLE

D-SUB MINIATURE HOODS

SPECIAL PRICING

PLASTIC HOODS

Includes Mounting Hardware & Set Screw To Hold Cable

9 PIN ......#DE 9HS
25 PIN ....#D825HS

$\$25^{00}$ PER 100

BNC CONNECTORS & ADAPTORS

BNC CRIMP #30		BNC TWIST-ON #31		BNC SPLICE #35		BNC "T" #41	
10-49	69 ea.	10-49	1.10 ea.	10-49	1 09 ea	10-49	2.30 ea
50-99	64 ea	50-99	.99 ea.	50-99	99 ea	50-99	2 12 ea
100-999	.59 ea.	100-999	.90 ea.	100-999	94 ea.	100-999	1 95 ea
79¢ each		1^{69} each		1^{19} each		2^{69} each	

Twin-ax Connectors

TNC Connectors

10-49	2.90 ea.	10-49	3.69 ea.	10-49	1 74 ea.	10-49	1 55 ea
50-99	2.65 ea.	50-99	3.35 ea.	50-99	1.58 ea.	50-99	1 42 ea
100-999	2.45 ea.	100-999	3.09 ea.	100-999	1 41 ea.	100-999	1.32 ea
3^{29} each		3^{99} each		1^{99} each		1^{69} each	

We have one of the largest selections of connector supplies on the west coast

D-Sub-Miniature Connectors (Shells)

Industry standard connectors for data cables - computer systems - peripherals. Connectors feature insertable pin and socket contacts that are easy to insert or remove.

	1-9pcs	10-24pcs	25-49pcs	50-99pcs	100-999pcs
DB-9 Plug	.72	.55	.50	.40	.34
DB-9 Socket	.72	.55	.50	.40	.34
DB-15 Plug	.76	.59	.54	.44	.38
DB-15 Socket	.76	.59	.54	.44	.38
DB-25 Plug	.78	.61	.56	.46	.40
DB-25 Socket	.78	.61	.56	.46	.40

INSERTION/EXTRACTION TOOL

Pin & Socket Contact

$\$2^{95}$

CRIMP TYPE CONTACTS

Gold plated contacts are crimped to wire using a hand crimp tool.

$\$7^{00}$/$100
$\$55^{00}$/$1000

Pin or Socket (male or female)

D-Sub-Miniature Connectors

Fixed Contact Solder Cup

Industry standard connectors for: data cables, computer systems - peripherals.

	1-9pcs	10-24pcs	25-49pcs	50-99pcs	100-999pcs
DB-9P Plug	.69	.49	.39	.35	.32
DB-9S Socket	.72	.54	.42	.39	.35
DB-15P Plug	.85	.65	.51	.47	.43
DB-15S Socket	.97	.77	.60	.55	.50
DB-25P Plug	.97	.77	.60	.55	.44
DB-25S Socket	.97	.77	.60	.55	.44

EAGLE ELECTRONICS

NEED LARGER QUANTITIES? CALL FOR A COMMERICAL QUOTE

ESTABLISHED 1963
1233 E. COLORADO BLVD., GLENDALE, CA 91205
(818) 244-3191 1-800-992-3191 (California) (213) 245-2338 Fax No. (818) 244-0466

LAPTOPS
T5100
16MHz 80386 processor, 40mb hard disk, Built-in EGA display system, 15 lbs $4760
T3200
12MHz 80286 processor, 2 internal IBM compatible expansion slots, 40MB hard disk, Built-in EGA display system $3740
T3100/20
8MHz 80286, 20MB hard disk, plasma display, 15 lbs $3000
T1200H
20MB hard disk (78-ms access), 1MB RAM, including 384KB EMS battery backed RAM disk $2250
T1200F
Two 720KB 3.5" diskette drives, Supertwist LCD $1550
T1000
Weighs only 6.4 lbs, 512 KB standard memory, MS-DOS in ROM $750
Authorized Toshiba Laptop Repairs
PRINTERS
P351SX
High speed 360 CPS, 24-pin, Letter quality and high density graphics $1050
341 S/L
Wide carriage, 24-pin $680
321 S/L
Fast, versatile 24-pin dot matrix $490
Authorized Toshiba Printer Repairs
IBM
Model 30
2 drive .... CALL FOR PRICES
Model 30
20 meg .... CALL FOR PRICES
Model 70
Standard Model .... CALL FOR PRICES
Model 80
Standard Model .... CALL FOR PRICES
8503 Monochrome Monitor
8512 Color Monitor
8513 Color Monitor .... CALL FOR PRICES
DATAFLEX
DataBase development Language
Vertical market solutions offered for Retail Point of Sale, MRP, Legal Billing, Inventory Control. Real Estate Partnership Syndication, Real Estate Propery Management, Wholesale Distribution, Credit Card Order Entry, Produce Wholesale Distribution, Insurance Policy Issuing & Invoicing
Call for quotation.
NOVELL
NOVELL
Network Advance Netware 286 Ver 2.0A $1400
NOVELL
Network Advance Netware 286 Ver. 2.1 .... CALL
TIGAN
Ethernet $325
STANDARD MICROSYSTEMS
Arcnet Card $135
TIARA
Active 8-Connector Hub $400
Passive 4-Connector Hub $35
NOVELL
Compatible Fileserver 286B.... Call for configuration quote
Call for Installation, Service & Training
GENERAL SOFTWARE
8608 Wilbur Ave., Northridge, CA 91324
Full Authorized Service and Support:
Okidata Toshiba Data General
Novell IBM Compaq
COD Prices - Purchase Orders/Corporate Accounts Welcome
Prices subject to change.
(818) 349-7758

Atari Computer Assoc. of Orange County (ACAOC). Meetings: 2nd. Sun. 1 PM Rancho Santiago College, Phys Ed. Bldg., Rm. W-101,Santa Ana.

California Educational Computing Consortium CCCE. For information write Herb Garrett, Long Beach City College, 4901 E. Carson Street, Long Beach, CA 90808.

ACCPAC Accounting SIG of UCLA PC Users Group. Meetings: 3rd Wednesdays. Group for users, CPAs, consultants and other business people interested in sharing information on ACCPA Accounting Software. Call Donna Miller, (213) 393-0244, Carolyn Sanders, (213) 399-5108.

USER GROUPS

AMIGA

Amiga Friends. Meetings: 3rd Sun. Rancho Santiago College, Rm R-124, 17th & Bristol, Santa Ana. Call for current meeting info: (714) 775-7237 (24 hrs.) or write: P.O. Box 4186, Huntington Beach, CA 92605.

Bits & Pieces Amiga Group of Anaheim. Meetings: each Tues. 6:30-10 PM 1130-A North Kraemer Blvd., Anaheim, CA. DOS Classes, tech. help & more. BBS: (714) 630-8897.

Long Beach Amiga UG. Meetings: 3rd Sun. 1-4 PM Mid-Cities Nat'l Bank, NE corner Lakewood & Artesian, Bellflower.

Pacific Computer Club. Meetings: 2nd Thurs. 7 PM 391 S. Madison, Pasadena, CA.

South County PC Users Group. Meetings: 3rd Sat. 9 AM American Savings, 23688 El Toro Rd., El Toro, CA.

South Orange Commodore Klub (SOCK). Meetings: 3rd Saturday 9:00 A.M. Union Savings, 23688 El Toro Road, El Toro, CA. For Commodore 64/128 users and Amiga users. One-hour general meeting is followed by separate group meetings for each.

Amiga Special Interest Group. Meetings: 1st Sunday except holidays. Chapman College, 333 N. Glassell, Orange, CA. Amiga SIG is part of the North Orange County Computer Club, a thousand member organization together 12 years.

San Fernando Valley Amiga Users Group (SFVAUG). Meetings: 2nd Thurs., 7:00 PM, American Legion Hall, (818) 719-9211.

AMSTRAD

AMSTRAD User Group, U.S.A. Meetings: 4th Tues. 7 PM & 8 PM Venice High School, 13000 Venice Blvd. Since Sears dropped the PCW8256, group formed so users/owners can support each other.

APPLE

Original Apple Corps. Meetings: 2nd Sun. 12:00 Noon 3rd Floor Community Room, Santa Monica Mall. First Apple group ever. SIGs for AppleWorks, Telecomm, Educators, Macintosh. Call Fred Duffy at (213) 396-5515.

Tri-City Apple Users Group. Meetings: 3rd Thurs., 7:00 PM, 50 N. Hill Ave., Pasedena. Call (818) 846-6682. Friendly Apple II experts.

Tri-City Apple Users Group. Meetings: 3rd Thurs., 7:00 PM, 50 N. Hill Ave., Pasadena. (818) 846-4482. Apple II experts.

ATARI

Santa Clara Valley Atari Computer Enthusiasts (SCVACE). Meetings: 1st Thurs. 7PM Mint Canyon Moose Lodge, 18000 W. Sierra Hwy, Canyon Country. 8-bit group. Atari ST special group now forming.

South Bay Atari ST Computer Club. Meetings: last Mon. 8 PM 15331 Praire Ave. Lawndale.

Atari Computer Association Of Orange County. Meetings: 2nd Sun. Rancho Santiago College, Room W101, Santa Ana. BBS: (714) 540-7378.

Atari Computer Association of Orange County (AVAOC). Meetings: 2nd Sunday, 1:00 PM Rm. 101, Phys. Ed. Bld., Rancho Santiago College, Santa Ana. Atari devotees of every stripe and interest. Publishes newsletter, various SIGs. (213) 691-0107.

West Los Angeles Atari Users Group. Meetings: 1st & 3rd Wednesdays, 7:30 PM, Lincoln Park @ Wilshire & Lincoln Blvds. Monthly newsletter and friendly, knowledgable members. Call Bill, (213) 559-2349.

ACCPAC Accounting SIG of UCLA PC Users Group. Meetings: 3rd Wednesdays. Group for users, CPAs, consultants and other business people interested in sharing information on ACCPA Accounting Software. Call Donna Miller, (213) 393-0244, Carolyn Sanders, (213) 399-5108.

COMMODORE

OKOK Computer Users Group. Meetings: 2nd Wed. 7-9 PM Altadena Public Library, 600 E. Mariposa. Call (818) 794-3243. Serves, Osborne, Kaypro, Commodore C128, PCs and compatibles and both MS-DOS and CP/M operating systems.

Bits & Pieces Commodore Computer Group of Anaheim. Meetings: each Tues 6:30 PM 1130-A N. Kraemer Blvd. (Kraemer & La Palma), Anaheim. Offers public domain software, demonstrations, interactive training on your computer. $33 annual dues.

Commodore Users & Buffs Enthusiasts (C.U.B.E.). Meetings: 1st & 3rd Tues. 4:30 Mid-Cities Nat'l Bank, NE corner Lakewood & Artesia, Bellflower.

Commodore 64 Software Users Group. For new Commodore owners. One on one help. Call (714) 531-2977 for info.

Nebula 6. Call BBS for more info & online glance at what group offers. BBS (714) 595-6577 300/1200/2400. Write for info: P.O. Box 1071, Walnut, CA 91788.

Orange County Commodore Technical Users Group (C-TUG). Meetings: 4th Sun. 10:30 AM Mercury Savings & Loan, 4th & Newport, Tustin, CA. Newsletter; 2 BBS's; door prizes; SIGs in Comal; DOS protection data bases; wpros; & BASIC. Custom software, ROM chips.

South County PC Users Group. Meetings: 3rd Sat. 9 AM Great American Savings, 23688 El Toro Rd., El Toro, CA.

South Orange Commodore Klub (SOCK). Meetings: 1st Wed. 7 PM Laventhol & Horwath, Exec. Conf. Rm.7th Fl., 3699 Wilshire Blvd., LA, CA.

Southern California K-Man Users Group. Meetings: 1st Wed. 7PM Laventhol & Horwath, Executive Conference Room, Seventh Floor. 3699 Wilshire Blvd., Los Angeles.

Pacific Computer Club. Meetings: 2nd Thurs. 7 PM 391 S. Madison, Pasadena, CA.

Pasadena Commodore Computer Club. Meetings: 1st and 3rd Weds. 7:00 PM Circadian Room, Pasadena City College Cafeteria. Colorado Blvd & Hill, Pasadena. Call (818) 447-2212 after 2:30 PST or write P.O. Box 163, Arcadia, CA 91006.Supports C64 and 128 machines.

South California Commodore Users Group. Meetings: 3rd Tuesday each month, 7:00 P.M., MidCities National Bank, Lakewood and Artesia Blvds., Bellflower, CA.

South Orange Commodore Klub (SOCK). Meetings: 3rd Saturday, 9:00 A.M., Union Savings, 23688 El Toro Road, El Toro, CA. For Commodore 64/128 users and Amiga users. One-hour general meeting is followed by separate group meetings for each.

dBASE

Valley West dBASE Users Group. Meetings: 3rd

Mon. 7:00 PM Blue Cross Of California, 21555 Oxnard St., Woodland Hills. Call (818) 343-9033 or write P.O. Box 16971, Encino, CA 91416.

DEC

DECUS Rainbow Pacific PC-LUG. Meetings: 2nd Wed. 7:00 PM Digital Equipment Corporation, 6101 W. Centinela, Ave., Culver City. Digital Equipment Computer Users Society. Free to DEC users. Call Karen Danforth (818) 787-8736 or write P.O. Box 2278, Van Nuys, CA 91404.

EPSON

San Fernando Valley Epson QX User Group. Meetings: 3rd Tues. 7 PM Fallbrook Sq. Comm. Rm., Fallbroook Mall, 6633 Fallbrook Ave. Canoga Park.

IBM AND COMPATIBLES

OKOK Computer Users Group. Meetings: 2nd Wed. 7-9 PM Altadena Public Library, 600 E. Mariposa. Call (818) 794-3243. Serves, Osborne, Kaypro, Commodore C128, PCs and compatibles and both MS-DOS and C/PM operating systems.

Bits & Pieces Amiga Group of Anaheim. Meetings: 1st & 3rd Sat. 10 AM—2 PM 1130-A North Kraemer Blvd., Anaheim, CA. Sponsored by Transnational Electronics. BBS: (714) 630-8897.

Kern Independent User Group. Meetings: Write Kern Independent PC User Group, P.O. Box 2780, Bakersfield, CA 93303.

Long Beach IBM Users Group. Meetings: 3rd Wed. 7 PM Woodruff Medical Plaza, 3816 Woodruff Ave., Room A, Long Beach.

Pacific Computer Club. Meetings: 2nd Thurs. 7PM 391 S. Madison, Pasadena, CA.

Pasadena IBM Users' Group. Meetings: 3rd. Wed. CalTech, Bridge Bldg., Rm. 201.

QUICK & EASY Mailmaster User Forum. Meetings: monthly LA/Airport area. Users interested in maximizing performance of Quick & Easy.

South Bay Users Group (SBUG). Meetings: 1st Sun. Mercury Savings, Long Beach, CA.

Technical Users Group (TUG-NET). Meetings: Call for info (818) 882-6045. BBS (818) 882-6045.

The IBM & Compatibles User Group (ICUG). Meetings: 4th Thurs. 6:30 PM or 7:30 CAL Lutheran Univ., 60 W. Olsen Rd., Thousand Oaks. Group is 5 yrs. old & has 150 members Meetings begin at 6:30 for beginners, 7:30 regular members.

Calsonic PC Club. Meetings: 1st Tues. 5:15 PM 9 Holland, Irvine, CA.

PC*UG Computer Club. For Hughes Aircraft Employees. Call (213) 334-3422.

TRS Nybblers. Meetings: 1st Wed. 7 PM 2006 W. Magnolia, Burbank. Supports MS-DOS, CP/M, IBM or IBM clones.

Orange Coast IBM PC User Group. Meetings: last Sat. 9 AM Science Hall, Orange Coast College, Costa Mesa, CA.

Saddleback College IBM-PC Users Group. Meetings: 3rd Sat. Room 210, Business and General Science Building, Saddleback College, Mission Viejo. Call Susan Gordon at (714) 582-4650.

Kenny's Computer Club. Meetings: Each Saturday 8:00 A.M. to No 1133 Locust St. Apt. 19, Long Beach, CA. For those with an interest in graphics, DTP, Lotus, Autocad, games, databases and word processing.

Greater South Bay User Group. Meetings: 3rd Thursday, 7 P.M., Fellowship Hall, Christ the King Lutheran Church, 2706 W. 182 St., Torrance, CA. Bulletin Board, library and newsletter are featured services.

The Southern California K-Man Users Group. Meetings: 1st Wednesday, 7:00 P.M., Laventhol and Horwath, Executive Conference Room, 7th Floor, 3699 Wilshire Blvd., LA. Demo of the month features new software and hardware.

KAYPRO

OKOK Computer Users Group. Meetings: 2nd Wed. 7-9 PM Altadena Public Library, 600 E. Mariposa. Call (818) 794-3243. Serves, Osborne, Kaypro, Commodore C128, PCs and compatibles and both MS-DOS and C/PM operating systems.

LEADING EDGE

Leading Edge Computer User Group of Ventura County. Meetings: 2nd. Sat. 10 AM Camarillo Library, 3100 Ponderosa Dr., Camarillo, CA. Lectures on hard/floppy disk usage; program demos; beginner classes. .Single: $20, couple $25.

MACINTOSH

MacValley. Meetings: 3rd Tues. 7:30 PM Burbank High School Cafeteria at Burbank Blvd. and Third St. Call Ruth Stever at (818) 848-1277 or write P.O. Box 4279, Burbank, CA 91503.

LAMG (Los Angeles Macintosh Group). Meetings: Call (213) 278-LAMG or write 12021 Wilshire Blvd. #349, Los Angeles, CA 90025.

Original Apple Corps. Meetings: 2nd Sun. 12:00 Noon 3rd Floor Community Room, Santa Monica Mall. First Apple group ever. SIGs for AppleWorks, Telecomm, Educators, Macintosh. Call Fred Duffy at (213) 396-5515.

MacValley Users Group. Meetings: June 21, 7:30 P.M. The cafeteria at Burbank High School, Burbank Blvd. at 3rd St. Todd Kutches of Brainpower will present Architext, a text retrieval, management and dissemination program.

West Orange County Macintosh Users Group (WOCMUG). Meetings: Last Tuesday. F & M Bank in Rossmore Center, Orange County, CA.

California State University Macintosh Users Group. Meetings: California State University, Long Beach.

NETWARE

Netware User Group Los Angeles (LANET). Meetings: 2nd. Wed. Welcomes consultants, CPA's, dealers, & users interested in sharing information on NETWARE & related products.

Orange County Network Users Group (OCNET). Meetings: 2nd Tues. Wyle Labs, Irvine CA. Open to users, consultants, all interested in NETWARE.

Orange County Network Users Group (OCNET). Meetings: 2nd Tues. at Wyle Labs, Irvine, CA. Open to users, consultants, all interested in NETWARE. Call Mark at (714) 955-0616.

OPEN SYSTEMS

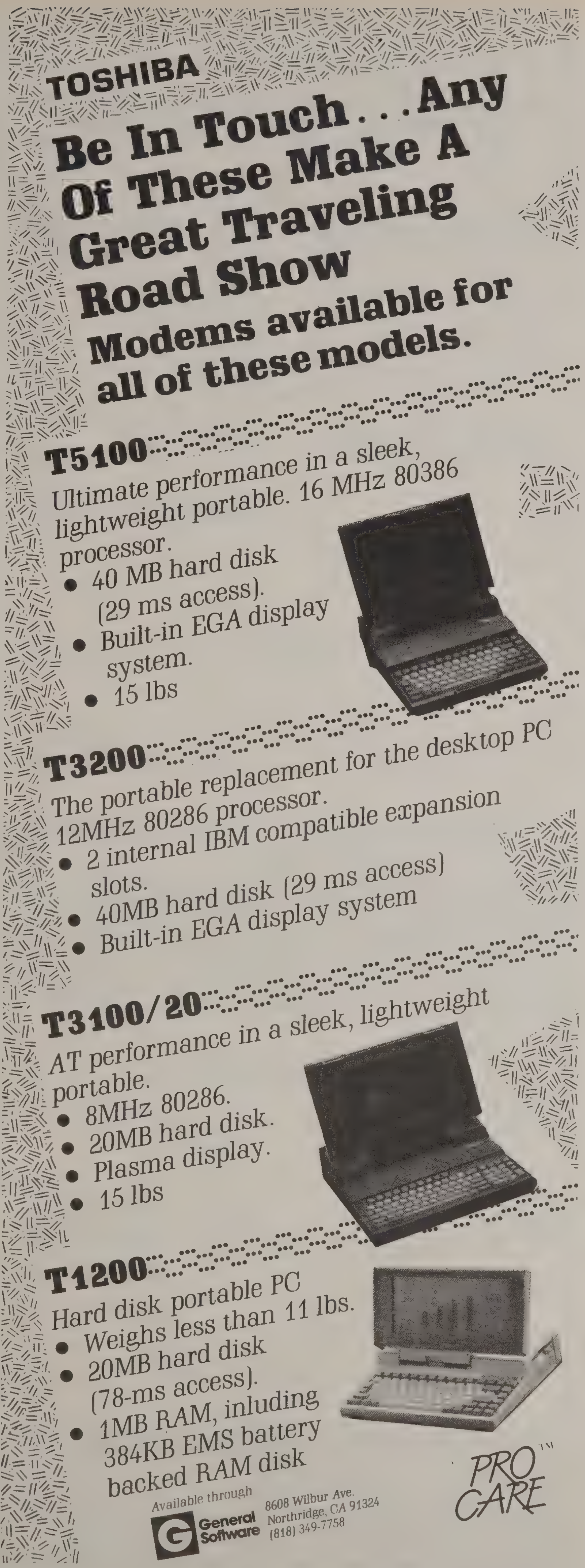
Open Systems Accounting, So. Cal Users Group (OSASCUG). Meetings: 4th Wed. Wyle Labs, Irvine, CA. Users of Open Systems, Altos Accountant, CADO, & Rexon accounting software. Open to end users, dealers and consultants.

OSAS Systems Users Group Los Angeles (OSASUGLA). Meetings: 1st Wed. Welcomes consultants, CPA's, dealers, users & QI's interested in sharing information on OSAS & related products.

Open Systems Accounting, So. Cal Users Group (OSASCUG). Meetings: 4TH Wednesday of every *even month.* Wyle Labs, Irvine, CA. Users of Open Systems, Altos Accountant, CADO & Rexon accounting software. Open to end users, dealers and consultants. Call Mark at (714) 955-1724.

OSBORNE

OKOK Computer Users Group. Meetings: 2nd Wed. 7-9 PM Altadena Public Library, 600 E. Mariposa. Call (818) 794-3243. Serves, Osborne, Kaypro, Commodore C128, PCs and compatibles and both MS-DOS and C/PM operating systems.



TOSHIBA

Be In Touch . . . Any Of These Make A Great Traveling Road Show

Modems available for all of these models.

T5100

Ultimate performance in a sleek, lightweight portable. 16 MHz 80386 processor.

- 40 MB hard disk (29 ms access).
- Built-in EGA display system.
- 15 lbs

T3200

The portable replacement for the desktop PC 12MHz 80286 processor.

- 2 internal IBM compatible expansion slots.
- 40MB hard disk (29 ms access)
- Built-in EGA display system

T3100/20

AT performance in a sleek, lightweight portable.

- 8MHz 80286.
- 20MB hard disk.
- Plasma display.
- 15 lbs

T1200

Hard disk portable PC

- Weighs less than 11 lbs.
- 20MB hard disk (78-ms access).
- 1MB RAM, inluding 384KB EMS battery backed RAM disk

Available through

General Software

8608 Wilbur Ave.
Northridge, CA 91324
(818) 349-7758

PRO CARE™

ALL COMPONENTS
IC DISTRIBUTOR

MATH COPROCESSORS	
8087-2 (8 MHz)	Call
8087-3 (5 MHz)	Call
8087-1 (10 MHz)	Call
80287-6 (6 MHz)	Call
80287-8 (8 MHz)	Call
80287-10 (10 MHz)	Call

EPROMS	
2732	Call
2764	Call
27128	Call
27256	Call
27512	Call

DYNAMIC RAMS	
1 Meg-120ns 1000Kx1	Call
1 Meg-100ns 1000Kx1	Call
41256-150ns 256Kx1	Call
41256-120ns 256Kx1	Call
41256-100ns 256Kx1	Call
4164-150ns 64Kx1	Call
4164-120ns 64Kx1	Call
4128-150ns 128Kx1	Call
4464-150ns 64Kx4	Call
4464-120ns 64Kx1	Call

CPU CHIPS	
V20-8 (8 bit)	Call
V30-8 (16 bit)	Call

CALL (800) 367-7312

Prices shown for UPS COD Cash. Prices are subject to change.
SHIPPING & HANDLING: UPS Ground $6, UPS Air $7 (under 1 lb.).

ALL MERCHANDISE IS 100% GUARANTEED.

TANDY/RADIO SHACK

Los Angeles - Wilshire Color Computer Users' Group. Meetings: 2nd Sat. 12:30-5:30 PM Felipe de Neve Library's Comm. rm., 2820 W. 6th St., LA, CA.

South Bay Users Group (SBUG). Meetings: 3rd. Fri. Mercury Savings, 22939 Hawthorne Blvd., Torrance, CA.

TEXAS INSTRUMENTS

San Fernando Valley TI-99/4A User Group. Meetings: 2nd Wed. 7:30 PM Doctor's Conf. Rm., Sherman Oaks Hospital, 4929 Van Nuys Blvd. Call for info: (818) 248-9558.

SFV 99ers. Write: 2823 Sanborne Ave., La Crecenta, CA 91214.

TI Riverside UG. Meetings: Call for info: (213) 545-9581 or (213) 551-9454.

TI Users Group of Orange County. Meetings: 3rd Thurs. Peek Funeral Home, 7801 Bolsa Ave., Westminister. Call 633-7317.

TI Professional. Call (213) 397-9668.

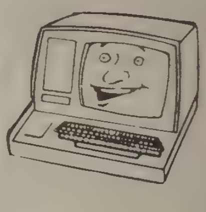
LA 99er Computer Group. Meetings: 4th Wednesday, 7:15 P.M. Torrance Public Library, Torrance Blvd. at Madrona.

TIMEX/SINCLAIR

Timex-Sinclair Users Group. Meetings: 3rd Mon. 7 PM 11828 Jefferson Blvd., Culver City, CA.

Timex-Sinclair. Meetings: Call John W. Petersen (213) 545-9581 or George Kuby at (213) 551-9454. BBS: Grey Matter (213) 971-6260.

WEST EAST Computer Shows & MICROTIMES PRESENT THE FOLLOWING



COMPUTER SHOWS & SALES

Saturday 6/25
Ventura Computer Show & Sale
Ventura County Fairgrounds
(Going N. exit California St. off Hwy 101
Going S. exit Ventura Ave. off Hwy 101)

Saturday 7/9
Glendale Computer Show & Sale
Glendale Civic Auditorium
1401 N. Verdugo Rd.
Hwy 134 to Glendale Ave. exit
Turn north—go one mile

Saturday 7/30
Ventura Computer Show & Sale
Ventura County Fairgrounds
(Going N. exit California St. off Hwy 101
Going S. exit Ventura Ave. off Hwy 101)

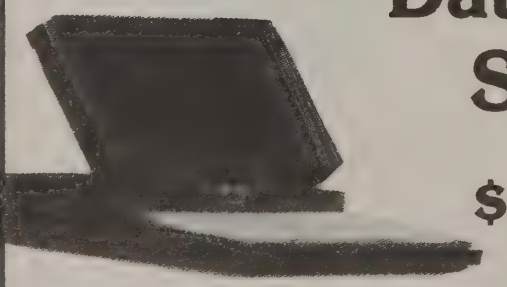
Saturday 8/6
San Diego Computer Show & Sale
San Diego Scottish Rite Center
I-8 to Mission Center/Texas St. exit,
left on Camino del Rio South

TREMENDOUS SAVINGS

☎ **East-West Computer Shows**
(formerly Golden Gate Shows)
CALL FOR INFO: (415) 388-8893

ALL SHOWS 10-5PM
Admission $5.00
Kids 12 & under FREE

YOUR 2nd COMPUTER
(or your 1st)
Should Be A LAPTOP!



DataVue Spark

$1450
Free Case and Battery

• 2 — 3½" Floppy Drives • 9.5 MHz • 640K •
• Under 10 Pounds •
• Great Keyboard & Screen •
• Optional 40 MB Hard Disk •
• Can Run on Batteries Up To 6 Hours •

WILKINSON SOFTWARE
6400 Westminster Blvd., Ste. 115, Westminster, CA 92683
714-894-3216

SATURDAY
JULY 23, 1988

COMPUTER BARGAIN SHOW

PASADENA
Computer Swap

EVERY ITEM ON DISPLAY IS AVAILABLE FOR IMMEDIATE PURCHASE AT BARGAIN PRICES

PASADENA CENTER
PASADENA, CA

DIRECTIONS:
From the 110 Freeway: Exit Arroyo Pkwy. North. East (right) on Green St. South (right) on Euclid.
From the 210 Freeway: Exit Fair Oaks South. East (left) on Green St. South (right) on Euclid.

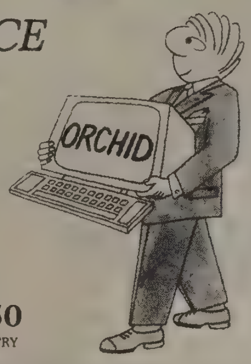
10 A.M. to 5 P.M.

Admission $5 Children Under 12 FREE For Info. Call in CA 800-433-7469

A MICROSHOWS PRODUCTION

CLASSIFIEDS

EMPLOYMENT



AEROSPACE
JOBS

CALL ORCHID

YOUR
ON—LINE
CONNECTION
TO LOS ANGELES
EMPLOYERS

Free Access
MODEM ONLY
(213) 372-4050
TYPE GO ORCHID UPON ENTRY

FOR SALE

AMERICAN ENTERPRISES PRESENTS
Custom Computer Covers for MAC, IBM, PS/2. Covers are high quality anti-static scotch guarded cloth. Available in black, beige, lt./dk. gray, and mauve. Please specify computer type and monitor size. Protect your investment.
Send check or money order, Visa/MC for $19.95 to:
American Enterprises
3959 Wilshire Blvd. Suite 485
Los Angeles, CA 90010
California residents add
$1.30 (6.5%) for sales tax.

HARDWARE FOR SALE

Morrows-MD-2 with ADM-20 monitor ($250); MD1E with ADM-20 monitor ($200); MD-2 with MD-60 monitor ($300); best offer, I am moving; (213) 306-0163.

Hewlett-Packard Hardware & Software—Buy/Sell/Trade—Vectra, 98xx, HP-150, Portable, 125, 80 Series, 70 Series, and 41 computers. Also printers, plotters, and terminals. Extensive inventory of HP Hardware and software items. Call Cal-Logic for inventory list at (213) 597-0423.

HARDWARE FOR SALE

Northstar Horizon, 2 floppy drives, wood case, no terminal, excellent condition. Bruce, (415) 658-9545, leave message.

DEC 11/45 Minicomputer. 25mb hard drive, all manuals. Sell, trade. (714) 598-8102.

Printronix: P-600 P300XQ printers refurbished, 90 day warranty. 15 units in stock. Call (714) 735-0810.

Apricot colored Monitor, $50. Hot Shot 286, $'100. Hayes Smart modem, $50. Quadrum modem 2400 baud, $100. Floppy disk drive 360K IBM, $25. 10NB IBM hard disk drive, $50. Other various boards. (213) 650-9571.

386 System & 40MB .	$2195
AT System & 20MB . .	$1195
XT System & 40MB . . .	$893

Compuworld
Computer Store
1443 N. Highland Ave.
Hollywood, CA 90028
(213) 461-0779

HARDWARE FOR SALE

Complete System Repair
- Hard Disk Repair Special

Professional quality repair for Seagate, NEC, CMI, MiniScribe, Rodime, Tandon and many more—all repairs are done in **Class 100 Clean-Room.**
- Printer Repair: NEC, Epson, Toshiba
- IBM XT/AT and Compatibles, NEC

All works are satisfaction guaranteed
Competitive Pricing

HD COMPUTER SERVICE
12345 Westminster Ave.
Santa Ana, CA 92703
Phone: (714)554-6746
FAX: (714)554-9979

SERVICES

COMPUTER MAILING LISTS Computer dealers, user groups, publications, end users and more. Send for free catalog. Buffalo Enterprises, P.O. Box 29 Sebastopol, Ca 95473 (707) 823-3239.

QDG RENTAL DEPARTMENT

We Rent
Daily/Monthly/Weekly
Lowest Lowest

TOSHIBA

T-1000/1200	$779/2175
T-3120 MB.	$3099

HEWLETT PACKARD

Laser Series II.	$1625
1 MB expansion HP/compatible . .	$325/299
2 MB expansion HP/compatible .	$690/620
HP Scanjet scanner/Deskjet . .	$1295/699

COMPAQ

Deskpro Models

286 1/20/40 MB	$1800/2250/2525

IBM

PS II Model 80 44MB/70MB.	$BEST

LASER/ FAX/ SCANNER RENTALS

Next to Egghead
Clearance Center
Rent computers/monitors/FAX/printers/scanners/lasers by the week or month
(213) 312-5046

Quality Distribution Group
(213) 478-9811
11651 W. Pico
Los Angeles, CA 90084

SERVICES

Working D-base3 Plus programmer/analyst seeks moonlighting assignments. Long & short term. Comparitive rates. (714)380-8575.

MAKE $50.00/HR assembling PC clones. Free information, send SASE to: PCIFY, 14102 Woodlawn, Tustin, CA 92680.

Consulting — Precision Computer Consulting, an established South Bay company is now offering after hours training and consulting for the IBM PC. Lotus 1-2-3, DbaseIII, MS-DOS, Multimate, MSWord, Crosstalk, Local area networks and other IBM compatible S/W H/W supported. Call 375-5804 for more information.

SERVICES

MacIntosh Consulting — general, Microsoft Word, Excel, equation editing, Pascal; $25/ hr. Jim (MSEE, UC Irvine), (714) 786-2853.

PC/Software trouble? On-site service. Satisfaction guaranteed. Call John at (213) 261-4795, after 6 pm.

Rent-A-Writer's Professional Technical Writers — will come to your site or work independently to document all your hardware, software and temporary writing needs. Call (415) 841-8003.

User Documentation Service — (415) 586-4577 makes your notes into a professional user-friendly manual. Free estimate.

IBM PC, AT, PS/2
Consulting & Sales
Networking (3 Com, Novell),
Desktop Publishing, CAD
$40-80/hr.
David Howard
(213) 285-8919

LOSS LEADERS
(WHILE THEY LAST)

80286-8 PLCC	6.95
48C02 ENHANCED SRAM	2.95
8086 OR 8088	1.95
68020-12..................	49.95
68000 OR 68008	1.95
68010-10MHZ	9.95
68766 EPROM	2.50

All of the above except 48C02 are full lead pulls. 48C02 is Mostek new surplus. All parts unconditionally guaranteed 30 days. Ask about other ICs and our retrieval service.

KRUEGER COMPANY
(800)245-2235

SERVICES

MARKET RESEARCH
RESEARCH INTERNATIONAL, a professional consulting firm with years of experience, can provide up-to-the-minute market insight profiles. Not just numbers, but also product identification, market segment income per capita, psychographics, image response studies, assistance with product development and ad campaigns. Contact us at 1150 "A" Coddingtown Center, Suite #103, Santa Rosa, CA 95401 or (707) 578-4142 Message Service. Where good products deserve GREAT handling.

BUSINESS CONSULTING
Small business, start-ups, business plans, management and technical assistance by an expert staff with years of experience. Rates based on your ability to pay. Call RESEARCH INTERNATIONAL (707) 578-4142 and leave a message. No client too small, no project too large, we deliver specific recommendations tailored to your business needs and designed to solve your problems. Professional help is just a phone call away.

Warren Sirota Associates — 7 years of experience programming, teaching, and reviewing database systems means appropriate, reliable, and efficient satisfaction of your database needs. MS mathematics, references available. (415) 482-3979.

Desktop Publishing — Professional quality flyers, newsletters, resumes, directories, etc. produced. Reas. rates. Call Kevin (818) 345-4652.

MICROTIMES
CLASSIFIEDS CAN
WORK FOR YOU!
CALL (213) 467-7878

To Place A Classified Ad:

FREE ADS: Private individuals may have one free classified ad of 15 words or less (in all categories EXCEPT "Personal"). Additional words are 50¢ per word. A phone number, including area code, counts as one word. If you want your ad to run more than once, all subsequent printings will be charged at one half business rates.

BUSINESS ADS: Rates are $15 for 15 words or less. 50¢ for each additional word. Again, your phone number counts as one word.

TO ORDER BY MAIL: SEND COUPON TO:
MicroTimes Classifieds
1800 N. Highland Ave. #220
Hollywood, CA 90028

TO ORDER BY PHONE with Visa or MasterCard only, call **(213) 467-7878**

For a mere fraction of your paycheck—buy, sell, trade ... whatever! Just $15 for the first 15 words plus 50¢ for each additional word, per issue.

CATEGORY
- ☐ Employment Offered
- ☐ Hardware For Sale
- ☐ Software For Sale
- ☐ Employment Wanted
- ☐ Office Space
- ☐ Video
- ☐ Personal
- ☐ Wanted
- ☐ Equipment
- ☐ Services
- ☐ Will Trade

____

____

____

____

____

____

Cost of ad________ X number of issues to run________ =Amount Enclosed________

Send Check ☐ Money Order ☐
Visa ☐ or MasterCard ☐ Exp. Date ____________
Account # ____________
Signature ____________

Advertisers Name____________
Street Address____________
City____________ State______ Zip______
Phone (______) ____________

Send To: MicroTimes Classified: 1800 N. Highland #220, Hollywood, CA 90028

DEADLINE FOR INSERTION IN THE SEPTEMBER ISSUE IN NOON ON MONDAY, JULY 25, 1988

DISCOVER CALIFORNIA'S

COMPUTER SERVICE

PROFESSIONALS

- IN HOUSE AND FIELD TECHNICAL SPECIALISTS
- VARIED MIX AND MATCH SERVICE PLANS
- STATEWIDE SERVICE AREA
- DEALER PROGRAMS
- TECHNICAL PHONE SUPPORT

Micro Computers • Laserjet Printers • Dot Matrix and Daisy Wheel Printers • Local Area Network • Video Display and Graphic Terminals • Line Printers

JOIN THE 100's OF SATISFIED CUSTOMERS TODAY!

ATS

AUTHORIZED TECHNICAL SERVICES

8901 LA CIENEGA BLVD.
INGLEWOOD, CA 90301

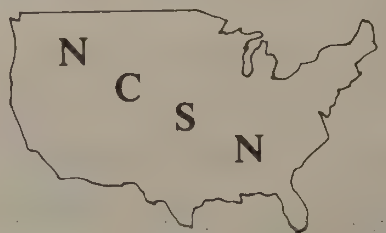
LOS ANGELES
(213) 568-8862

ORANGE COUNTY
(714) 937-0332

OAKLAND
(415) 638-4449

SACRAMENTO
(916) 923-2944

SAN JOSE
(408) 970-9860



MEMBER OF
NATIONAL COMPUTER SERVICE NETWORK

1-800-451-4057

CLASSIFIEDS

SOFTWARE

Apple SW manuals, new: MacDraft, MacProject. Also AppleII: Super Pilot, Instant Pascal. $5 ea. (213) 759-7406.

Graphics IBM PC Drawing Animation Music seeking Publishers to market using own label. One of the best. Thousands sold. Call John (213) 387-4044.

The Complete HyperCard Handbook by Danny Goodman. $29.95 (free shipping). Other books for Apple and IBM. Kula Software, 2118 Kula Street, Honolulu, Hawaii 96817.

SOFTWARE

Solomon III gen'l ledger X.12, $200. Tax preparer, $50. MicroSoft Word 3.1, $50. WordPerfect 4.1, $50. QNA 2.0, $50. Much more asstd software, cheap, call for further info: (213) 650-9571.

WILL TRADE

Metal detector, bounty hunter: for MacIntosh software. Fontographer, Lazerworks, pgmkr, RSG4.0, Canvas, local trade. Joe (818) 545-8282.

THIS SPACE CAN BE YOURS!

To Place a Classified Display Advertisement, call (213) 467-7878

EAGLE Technical Support

714-895-1759

If you own an Eagle system, you should call us for information !

Free Telephone Support

Parts & Service Available

NETWORK SPECIALISTS SALES-INSTALLATIONS

NOVELL

ELS 286A	$495
ADV. NETWARE 286 2.0A	1495
ADV. NETWARE 2.11 W/KEY	2150
ADV. NETWARE 2.1 SFT	3495
YES, WE STOCK MICRO CHANNELS VERSION	$CALL

NETWORK CARDS

SMC ARCNET 210/110	$169/159
NOVELL COMPATIBLE 20 MHZ	225
TIARA LINK A/A-II PS2	195/495
3COM 501S/3C503/MCHANNEL	425/425/535

NETWORK OPTIONS

SMC ACTIVE/PASSIVE HUB	$425/65
386 COMPAQ CLONE	2295

NETWORK KIT

4 USER ELS STARTER KIT, INCLUDES 4N/CARDS, ELS S/WARE CONNECTORS AND CABLE	$1195

CALL FOR QUOTES:

POWER SUPPLIES, NOVELL, ACER, AST, IRWIN, GATEWAY

DEALERS AND CONSULTANTS WELCOME
QUANTITY DISCOUNTS*

*All prices subject to change without notice.

MCC

2716 Ocean Park Blvd. #3075 Santa Monica, CA 90405
(213) 452-1335

GRANITE
COMPUTER PRODUCTS, INC.

One of the Largest Authorized Distributors on the West Coast for:

WYSE

WYSEpc 286 Model 2108

- Full Service/High Volume
- Hardware and Software
- Systems Integration
- Authorized WYSE Service Center
- Best Pricing on many quality lines
- Quick Delivery Anywhere in U.S.A.

(800) 447-ROCK

3000 Ocean Park Blvd.
Suite 1070
Santa Monica, CA 90405
(213) 396-7760

PUBLIC DOMAIN and USER-SUPPORTED
softwares for IBM and compatibles for only **$1.99**

BUSINESS

○ **EZ-FORMS** (136) Menu driven form-generator
○ **CHECKMATE** (140) One of the best rated softwares for financial activities
○ **CHECKMATE GL** (141) Multiple entry GL
○ **ENVELOPE PRINTER** (144) Address program
○ **LIGHTYEAR** (145) Business analysis and forecast
○ **REAL STATE ANALYST** (147) Menu driven, mortgage, interest
○ **BUSINESS LETTERS** (148, 149) (2 Disks) 650 Business letters
○ **PC PAYROLL** (151) Menu driven payroll system for up to 100 employees
○ **RENTAL PROPERTY** (152) Easy to do software for property managers
○ **PARTS INVENTORY CONTROL** (155) Keep tracks of parts
○ **FINANCE MANAGER** (157) Accounting package for business
○ **MANAGEX** (159) Bookkeeping and timekeeping Hard disk req.

COMMUNICATION

○ **QMODEM** (170, 171) (2 Disks) Full feature modem program
○ **BOYAN** (175) Top modem program
○ **RBBS BULLETIN BOARD** (177-179) (3 Disks) Requires a HAYES Smart Modem or compatible
○ **PROCOMM** (181) Terminal emulation, menudriven
○ **MDIAL** (182) Let computer dial your phones

DATABASE

○ **3 x 5 CARDS** (191) Information handling system
○ **DBASE II PROGRAMS** (195) Disk cataloging and dictionary of the data fields, Dbase III Req.
○ **FILE EXPRESS** (198) Menu driven easy to use dbase for beginners to experienced
○ **PC-FILE** (201-203) (3 Disks) Full featured dbase
○ **ULTRAMIND** (204) Creates dbase
○ **NEWBASE** (205) A menu driven dbase manager for mailing lists
○ **PERSONAL FILE MANAGEMENT** (207) Make your own personal files
○ **PERSONAL MAILER** (208) Mailing list manager

MUSIC

○ **COMPOSER** (217) Create and play your music
○ **PIANOMAN** (221, 222) One of the best softwares Req. PC-DOS
○ **MUSIC LIBRARY** (223) Make the lists of music by title and composer
○ **PC JUKEBOX** (225) Listen to the music played by the computer
○ **PC MUSICIAN** (228) Program for edit and compose

EDUCATION

○ **LETTERFALL** (297) Improve your typing skills
○ **FUNNELS & BUCKETS** (280) Great learning game for ages 5 to 10
○ **ERYN'S ABC'S** (283) Teaches alphabet and numbers ages 2 to 6 Basic Req.
○ **MATH-WHIZ** (286) Teaches various math operations Basic Req.
○ **AMY'S FIRST PRIMER** (287) Alphabet, numbers, counting, shapes Ages 4 to 8 CGA and Basic Req.
○ **SPELLING BEE** (288) Fun way to teach kids CGA Req.
○ **IQ BUILDER** (290) Numbers, Synonyms Basic Req.
○ **ANIMAL MATH** (293) ages 4 and up will love it CGA Req.
○ **SAN MATEO EDUCATION** (296) Math, Geography and Chemistry for ages 8 to 16 CGA and Basic Req.

LANGUAGE

○ **TURBO "C" TUTOR** (501, 502) (2 Disks) 14 lesson tutorial
○ **"C" LANGUAGE** (503, 504) (2 Disks) Source, compiler, samples
○ **TURBO PASCAL TUTOR** (408) 17 lesson tutorial with samples
○ **GERMAN** (511) Learn vocabulary and words
○ **ITALIAN** (512) Learn vocabulary and words
○ **SPANISH** (513, 514) (2 Disks) For beginners
○ **SPANISH VERB CONJ** (515) Study guide

GAMES

○ **WHEEL OF MISFORTUNE** (368) Exciting and new
○ **SLEUTH** (370) Murder mystery game
○ **BACKGAMMON** (372) Play with confidence
○ **GREATEST ARCADE** (374) Similar to arcade games
○ **THE AMULET OF YENDOR** (375) Find out how far you can go
○ **MONOPOLY** (376) Buy and sell
○ **PD TREK** (377) Public domain Star Trek game
○ **TRIVTREK** (379) Trivia question based on Trek
○ **3D PACKMAN** (383) Enjoy playing Packman in 3D
○ **SPACE INVADERS** (385) Adventures in the sky
○ **AQUARIUM** (386) Have an aquarium in your PC
○ **MINIATURE GOLF** (387) 18 hole golf course
○ **BLACKJACK** (388) Play Blackjack for multiple players EGA or Hercules Req.
○ **DEUNGEONS & DRAGONS** (389) The classic game
○ **LAS VEGAS** (390) Play different games without losing your money Basics & CGA Req.
○ **3D CHESS** (392) 2D and 3D chess game
○ **PC-CHESS** (393) One of the best chess programs
○ **SUPER PINBALL** (397) 5 different games
○ **ZIGGY** (398) Animation and Xmas cards with music
○ **WHOSONI** (399) Meet Abbot and Castello

GRAPHICS

○ **RAINBOW** (454) Use your joystick or mouse for painting
○ **SLIDE GENERATOR** (458) Make the slides for presentation
○ **DANCAD 3D** (471 to 474) (4 Disks) Drawing can be saved EGA or CGA Req.
○ **PC-KEY DRAW** (477, 478) (2 Disks)
○ **STREETS ON A DISK** (479) Map of L.A. County CGA or EGQ Req.
○ **PRINT SHOP GRAPHICS** (481) Libraries for Printshop, Req. Printshop
○ **PRINTMASTER GRAPHICS** (482) Libraries for Printmaster Req. Printmaster
○ **CALENDAR CREATOR** (484) Create and print your own calendar
○ **CYRUS** (351) Chess program EGA Req.
○ **EGA RISK** (354) The game of world EGA Req.
○ **EGA DEMO PROGRAMS** (355, 360) (6 Disks) Demo programs to impress EGA Req.
○ **EGA UTILITIES** (362) EGA Demos EGA Req.

To order, please check in circles and mail form and check or money order to:

PCI
14431 CHASE ST.
SUITE E #345
PANORAMA CITY, CA. 91402

NAME: ____________________
ADDRESS: ____________________
CITY ____________ ST. ______ ZIP ______
TEL. (______) ____________________
# OF DISKS ________ @ $1.99 = ________
Ca. Sales Tax (6.5%) = ________
Shipping and handling = $2.50
TOTAL = $ ________

Call or write for free catalog **Tel: (818) 989-4635**
No minimum order required

IBM™ COMPATIBLE SPECIALS

20 MB SYSTEM + PRINTER
••20 MB Hard Drive w/Controller

Includes Citizen Printer

- 640K Turbo Motherboard w/256K Memory
- Slide case
- 150 Watt Power Supply
- Direct Floppy Drive w/controller
- Monochrome Graphic Printer Card
- TTL Monitor
- AT Style Keyboard

★ ★ FREE POWER STRIP ★ ★
★ ★ MSP-40 PRINTER INCLUDED ★ ★

ONLY **$1125**

30 MB Hard Drive add $50

AT® SYSTEM

- 1MEG 6/10 MHz Motherboard w/512K Memory (12 MHz Available)
- 1.2 MEG Floppy Drive
- Keyboard
- Hard/Floppy Disk Controller
- Clock/Calendar
- 200 Watt Power Supply

•• IBM Operational Manual
•• IBM Installation + Setup Manual
•• IBM Basic Manual

$999

★★FREE POWER STRIP★★

PRINTERS

Star NX 1000	$195
Star NX 1000 Rainbow (Color Printer)	$295
Citizen MSP 40	$295

POWER STRIP
6 Outlet, AC Surge Protector
UL ONLY **$6.99**

VALLEY COMPUTER RESOURCES

Reseda
18327 Sherman Way
(818) 705-7851
FAX: (818) 705-7893
Parking Entrance in Rear

Hours:
M - F **8:30 - 6**
Sat **10 - 5**

Van Nuys
16121 Sherman Way
(818) 988-3022

Hours:
M - F **10 - 6**
Sat **10 - 5**

SATURDAY
JULY 30, 1988

COMPUTER BARGAIN SHOW

SAN FERNANDO VALLEY
Computer Swap

EVERY ITEM ON DISPLAY IS AVAILABLE FOR IMMEDIATE PURCHASE AT BARGAIN PRICES

CSUN North Campus
Formerly Devonshire Downs

NORTHRIDGE, CA
18000 Devonshire Blvd. between Lindley & Zelzah

10 A.M. to 5 P.M.

Admission $5 Children Under 12 FREE For Info. Call in CA 800-433-7469

A MICROSHOWS PRODUCTION

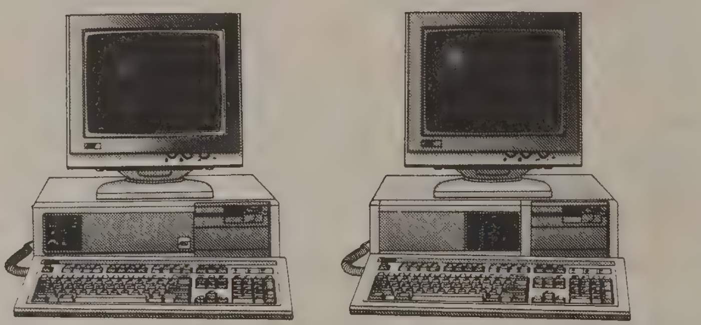
ADVERTISER'S INDEX

2001 Sales, Inc.	13
800 Software	15
All Components	96
Amax Applied Technology, Inc.	50
Americal	91
American Digital	37
Atlantic Computer Systems	59
Authorized Technical Services	98
Best Bit and Byte	57
Binary Computer Corp.	49
Blue Parrot	101
California Microstar	7
CES-Consumer Electronic Store	61
Compco	18
Compucal	86
Computel	27
Computer Business Center	40
Computer Products Center	20,21
Computer Resources	8
Computer Supplies Unlimited	48
Computer Swap	52,88,96,99
Computer System Integrators	92
Computerlane	89
Concord Computer Products	77
Copierland	20
Cypress Distributing	72,100
D-Data	67
Data Bureau, Inc.	47
Dataquest	39
Discount Micro World	90
Eagle Electronics	93
East-West Computer Shows	72,100
Eastern Enterprises	83
FMS Computers	33
Gates Distributing	23
General Software	94,95
Granite Computer Products	99,100
Guenther Computer	64
High Technology	104
House of Computers	44
IIT Computers	68
IMC	85
J.M. Systems	17
Katronics, Inc.	12
Kenfil Distribution	103
LA Computer Center	81
Legatech	19
Logical Choice	75
Marko Foam	88
Melloware Int'l Corp. of America	63
Micro Computer Consultants	21,98
Microcom Systems	52
Microlan	69
Microstar Software Library	29
Mid Cities	18
NCC National Computer Corp.	87
New Age	41
Pacific Coast Technology	28
PC House	30,31
PC Plus Consulting	84
PC Plus Corp.	6
PC Warehouse	58
PCI	99
PCR Personal Computer Rental	88
Peripheral Land	53
Phoenix	22
Pillarco	65
Po Hai International	42,43
QST	5
Quality Distributing	55
Qume	3
Sigma Computers	79
Softnet	13
Software World	10,11
Subscription Coupon	28
Tanstaafl	9
Tri-National Computer	9
Valerio	24,71
Valley Computer Resources	99
Vision 21 Systems	25
Wilkinson Software	96
Worldwide	2
Xenon	73

Now In Stock At

GRANITE COMPUTER PRODUCTS, INC.

AST Premium/286 AST Premium™/386



- 6, 8, or 10 MHz Operation.
- 0 Wait-State Memory Access.
- MS-DOS® and GW-BASIC® Software Included.
- Up to 1 MB of RAM, Expandable to 13 MB.
- Hard Disk Storage and EGA Video Adapter Standard on Some Models.

The Bridge to More Powerful Personal Computing.
- 20 MHz, 80386-Based Processor.
- SMARTslot™ Architecture for Faster Throughput.
- Compatible with AST MS® OS/2, XENIX® 386 and Windows® 386.
- Up to 2 MB Memory, Expandable to 13 MB.

Call for Volume Pricing

(800) 447-ROCK

3000 Ocean Park Blvd. Suite 1070, Santa Monica, CA 90405
(213) 396-7760

AST Authorized Dealer

California's Computer Magazine

MICROTIMES™

CLASSIFIEDS

WORK!

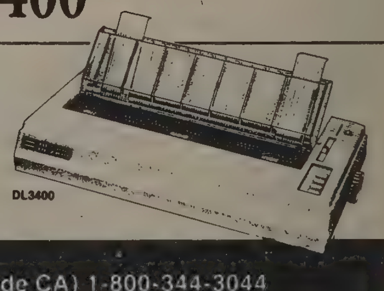
FUJITSU DX 2300/2400 and DL 3300/3400

DX 2300/2400
- 324 cps draft - 54 cps NLQ
- 80 column or 136 column
- Epson FX-80, IBM ProPrinter and IBM Graphics emulation
- Friction feed and adjustable tractor feed
- Quiet (less than 55dBA)
- Parallel and serial (optional) interface
- Color option available
- MTBF - 6000 power-on hours

Call for Price

DL 3300/3400
- 24-wire dot matrix
- 240 cps draft - 60 cps letter quality
- MTBF-8000 power-on hours
- IBM ProPrinter, IBM Graphics, Diablo 630 & Epson JX-80 emulation
- Parallel and serial (optional) interface
- Narrow or wide carriage
- Adjustable tractor and friction feed
- Head life 300 million strokes per wire

Call for Price



Cypress Distributing Company

(Outside CA) 1-800-344-3044

560 Lincoln Avenue
San Jose, CA 95126
(408) 297-9800

22186 Rim Pointe
El Toro, CA 92630
(714) 770-7244

2670 Truxel Road
Sacramento, CA 95833
(916) 646-1955

Datasouth 10 Net Century Data Systems Ampex
Personal Computer Products Panasonic Seikosha C. Itoh
Moniterm Star Micronics Mitsubishi Rutishauser Canon

PUBLIC DOMAIN SOFTWARE

FOR ONLY $\$2^{45}$

X-RATED/ADULTS ONLY

100 - ADULTSEX - Adult entertainment
101 - BAD-BAD - Adventure game (CGA Required)
102 - PIG STYLE - U should see it!
110 - PARTY - Strip party game
130 - XGAME
- X-RATED MONOPOLY - Try it, it's fun!!
140 - BJ - Use your imagination
150 - JIGGLE - Animated graphics
160 - ASTRO(***) - Game for men
161 - X-RATED PRINTMASTER LB
- x-rated graphics
162 - X-RATED PRINTSHOP LB
- x-rated graphics lib
180 - BOYS - Fantasy story
190 - MARINES - Fantasy story

APPLICATION

200 - MAKE YOUR OWN DEMO
- for presentations
210 - PERSONAL TELEMANAGER
- telemarketing database
220 - PHOTO 2.1
- database for your stock photo file

BUSINESS

300 - CHECKMATE 1.5
- keeps track of financial activities
310 - CHECKMATE GL
- Full powered, multiple entry GL
320 - ENVELOPE PRINTER
- env addressing prog & database
330 - LIGHTYEAR
- Business analysis & forecasting
340 - MANAGEX
- Timekeeping, billing, bookkeeping, needs HD
350 - TIME SAVER
- Appointment calendar

COMMUNICATION

400 - BOYAN-D2
- Excellent features, full DOS support
410 - PROCOMM - Powerful & Fun!!
420 - MDIAL - Mem res phone dialer
430 - TELIX212 - Much like procomm

DATABASE

500 - 3 x 5 CARDS
- Info handling system like cards
510 - FILE EXPRESS 4.14/
- (2 Disks) easy to use
521 - MASS APPEAL
- Mailing list management
522 - ON BASE - Memory resident dbase
523 - PERSONAL ADDRESS BOOK
- Print labels, birthdays, anniv
524 - ULTRA MIND
- Creates dbase using your info
525 - NEW BASE
- Powerful, flexible dbase program
526 - PERSONAL FILE MGMT
- Personal file manager for multi files
527 - PERSONAL MAILER
- Mailing list manager
530 - PC FILE (3 diskettes)
- Fast, ez to use relational dbase

RELIGION

2100 - BIBLE QUIZ - Test your knowledge
2110 - CHURCH MEMBERSHIP
- database, labels, reports
2120 - GODSPEED
- Biblical search program
2121 - HERITAGE CHURCH SYS.
- membership & cont sys

EGA

1400 - CYRUS
- Chess program, uses full EGA capabilities
1401 - EGA UTILITIES
- Get more from your EGA
1402 - SCRABBLE
- Just like the board game
1403 - PINUPS - Adult PC Paint pictures
1404 - EGA DEMOS - (3 Disks)
1407 - EGA GAMES
- like board game RISK & EGAROID

GRAPHICS

1700 - ANSI PAINT - Color editor
1710 - CAD-EGA/CGA
- (2 disks) - 2 D CAD
1721 - CAD HERCULES
- (2 disks) - 2 D CAD
1725 - EXPRESSGRAPH - Fast & colorful
1726 - FLOWCHART
- displays complex items in graph form
1727 - GRAPH
- for database systems and files
1728 - LEONARDO
- full featured graphics editor
1729 - LETTERHEAD 2.08
- design your own
1730 - MAGIC MOVER
- Electronic furniture mover
1731 - PC ART - drawing program
1734 - PRONTOGRAPH
- add legends, boxes & text to your graph
1735 - SLIDE
- create your own slides & overheads
1736 - YOUR ART 3.0
- paint type program

LANGUAGES

1800 - GERMAN I - tutorial
1810 - ITALIAN - tutorial
1811 - SPANISH VERB CONJ.
- study guide
1812 - SPANISH I & II
- (2 disks) - beginners

MUSIC

1900 - AUDIO LIBRARY
- record catalogue system by title
1901 - SQWAK - Great sound effect generation
1910 - MUSIC LIBRARY
- Org music by title & composer
1921 - PC MUSICIAN
- music editor & comp program
1922 - PIANOMAN
- Compose, edit & play on your PC

EDUCATION

1200 - ASSEMBLY LANG. TUTOR
1201 - BASIC TUTOR - Learn Basic the easy way
1204 - DOS TUTORIAL
1206 - TEACH C - C language tutor
1208 - TURBO PASCAL - Learning Turbo Pascal

GAMES

1600 - MONOPOLY
- Park place on the PC
1601 - PDTREK
- Public domain Star Trek game
1610 - ROGUE - adventure game
1621 - SPACE INVADERS - fun
1622 - 3D PAKMAN
- walka, walka, walka
1623 - TRIVTREK
- trivia questions of the trek
1625 - WHOSONI
- Abbott & Costello meet PC
1627 - ZIGGY
- animation & xmas cards, music
1628 - HACK - hacker adventure
1633 - BASGAMES
- collection of IBM/Basic games
1634 - ARCHERY
- you become William Tell
1635 - AQUARIUM
- turn your PC into a fish tank

FINANCE

1500 - BANKER'S TOOLS - Loan tools
1501 - CARD TRICKS
- credit card info base
1502 - HOMELOAN - loan cost planning
1503 - MORTGAGE ANALYSIS
- investment tool
1504 - PC STOCK - stock trend analysis
1505 - PORTFOLIO ROI
- measures stock performance
1506 - REALCARE
- real estate analysis for brokers
1507 - SAGE TRADER
- Commodities analysis

WORD PROCESSING

2400 - BLACKBOARD 7.34
- programmer's editor
2410 - CITY DESK 6.01
- Desktop publishing
2420 - GALAXY 2.3
- easy to use; Wordstar compat
2422 - LEGAL DICTIONARY
- ASCII-legal dict. for your spell checker
2423 - MEMOIRS - personal diary
2424 - MINDREADER 1.02
- Artificial intelligence text ed
2425 - NEW YORK WORD
- (2 disks) – incl. spell checker
2427 - PC WRITE 2.6 - Full powered
2428 - PC WRITE 2.7
- (2 disks) - incl. 50,000 word dict
2430 - PC OUTLINE
- Organize random info into hierarchy
2431 - PC STYLE
- analyze your text for writer's style
2432 - Q-EDIT 2.0
- quick editor, includes Q-FILER 3.0

SPREADSHEETS

2200 - AS EASY AS 3.0
- Lotus 1-2-3 clone
2210 - EZ NOTES
- PD version of smartnotes
2220 - INSTACALC
- Memory resident spreadsheet
2221 - QUBECALC 3.0 - 3D spreadsheet
2222 - SYMPHONY APPLICATION
- (4 disks) - total business tool

UTILITIES

2300 - AUTOMENU 4.01
- DOS menu program The Best!!
2301 - FILE UTILITIES
- Unerase, backup HD, etc
2302 - HARD DISC MENU
– security, logging sys shell util
2303 - MONOCOLOR
- Run color graphics on your mono card
2304 - STILL RIVER SHELL DOS
- command shell
2305 - TWINCOPY - Like COPY II PC
2306 - ULTRA - Norton utilities clone

dBASE UTILITY

D101 - DBMENU
- Helpful dBASE prgs for your printers & monitors
D12 - DB3TIPD
- Some tips & tricks in dBASE
D14 - DB3STOCK
- All . . . prg extensions, full of . . . ”
D16 - RULER
- Have a ruler on your screen, also color prg
D18 - GPTOOLS, VER 1.0
- Collection of routines that enhance the dBASE III program environment
D20 - CONTACT
- Organize & keep track of your important contacts

ORDER FORM (Minimum Order: 3 disks)

NAME ______________________
ADDRESS ______________________
CITY ____________ **STATE** ______ **ZIP** ________
PHONE ______________________

SPECIAL: ORDER 5 DISKS, GET 1 DISK FREE.
ORDER 10 DISKS, GET 3 DISKS FREE.

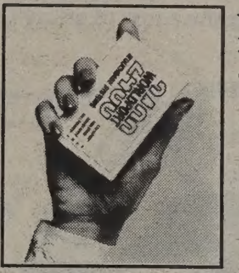
PLEASE PRINT DISK NUMBER:

________ ________ ________ ________
________ ________ ________ ________
________ ________ ________ ________

# OF DISKS ______ @ $2 45 = ________
CALIF RESIDENTS ADD 6.5% TAX = ________
SHIPPING & HANDLING = $1 95 ________
TOTAL = ________

FINALLY HERE IT IS

POCKET SIZED 2400 bps MODEM—$321

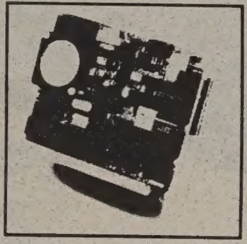


Versatile, World-Class Battery Powered 2400 bps Modem

- Fully Hayes compatible
- 300/1200/2400 bps
- Complete FCC-approved
- Acoustic coupler interface
- Dual use Desk/Laptop PC's
- Weighs only 6 ozs.
- Optional int/ext power
- Built in speaker
- Software included

2400 bps INTERNAL MODEM—ONLY $118

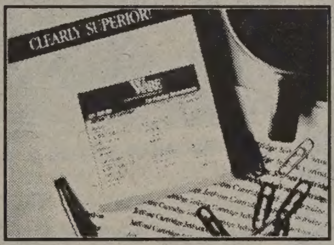
- Fully Hayes compatible
- 300/1200/2400 bps
- Complete FCC-approved
- Auto Dial/Auto Answer
- Two Year warranty
- Software included



1200 bps INTERNAL MODEM ONLY $76

ATTENTION:

Spreadsheet Users with LAZER JET



JETWARE FOR ONLY $299

- Print from 12 pitch to 30 pitch
- Print 40,000 characters per page
- Use all popular spreadsheets

ORDER FORM

NAME ______________________ PHONE (_____) ____________
ADDRESS ______________________
CITY ______________________ STATE ________ ZIP ________
# OF 2400 bps EX MODEM(S) _____ @ $321.00 = ____________
# OF 2400 bps IN MODEM(S) _____ @ $118.00 = ____________
# OF 1200 bps IN MODEM(S) _____ @ $76.00 = ____________
# OF JETFONT 123 CARTRIDGE(S) _____ @ $299.00 = ____________
CALIF. RESIDENTS ADD 6.5 % SALES TAX = ____________
SHIPPING AND HANDLING = 2.95
TOTAL = ____________

PLEASE MAIL THIS FORM WITH YOUR CHECK OR MONEY ORDER TO:

BLUE PARROT
18550 PRAIRIE ST. SUITE 11A
NORTHRIDGE, CA 91324
(818) 701-3059
FAX (818) 349-0403

WE ACCEPT ALL MAJOR CREDIT CARDS
ORDER 24 HOURS A DAY

You Get FREE Updated Catalog with Your Order
Contact Blue Parrot by Modem (818) 772-4BBS
At the **express elevator** type **BLUE PARROT** (Return)

DVORAK'S LAST COLUMN

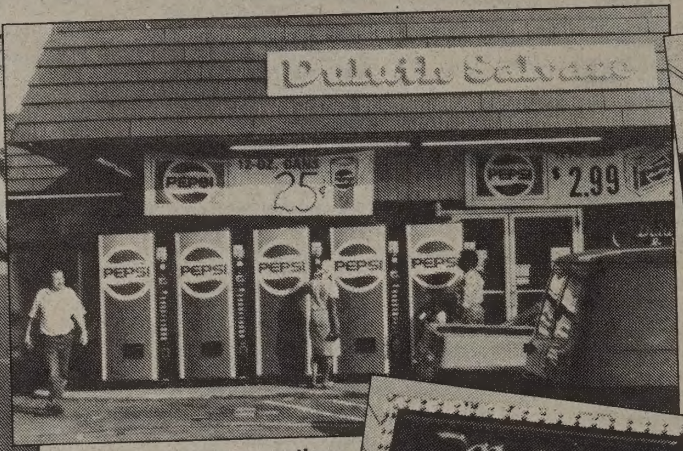
COMDEX—SPRING '88

Dvorak's Atlanta Photo Album

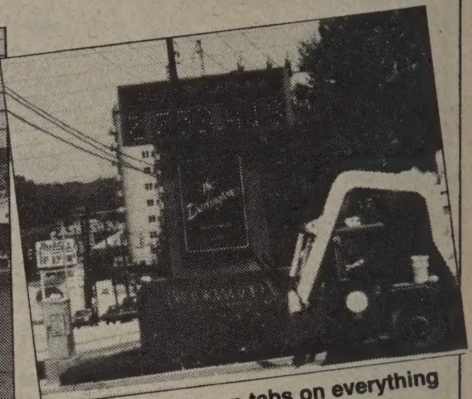
Atlanta, Georgia was the site of the 1988 Spring COMDEX. Atlanta is a beautiful and exciting spot, although you'd never know it from the pictures I took. Next year they're moving the show to grimy Chicago. These are photos and notes from my recent visit to the COMDEX show.

NATIONAL CAB COMPANY
WILSON TAXI
523-6414

⇑ Atlanta is plagued by weird cab companies. There must be thousands.



⇑ Atlanta is the International Headquarters for Coca-Cola. Once you leave the city limits you can find banks of Pepsi machines trying to low-ball Coke.

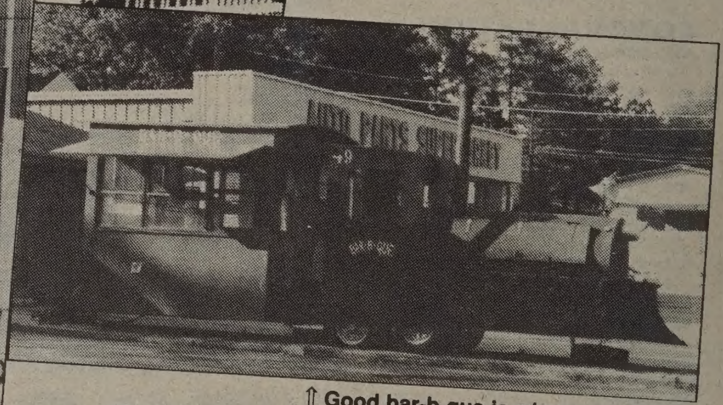


⇑ They like to keep tabs on everything in Atlanta, including a minute-by-minute population count. Perhaps some money for new bulbs should be spent.

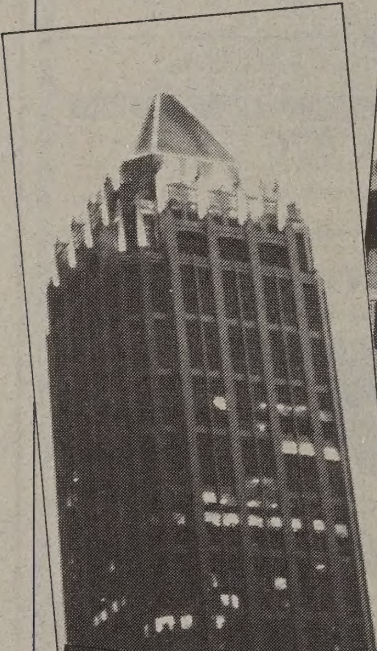
Magic
FAMOUS SMOKED FRIED CHICKEN

⇐ Atlanta has good food although it mystifies me what they do to it sometimes.

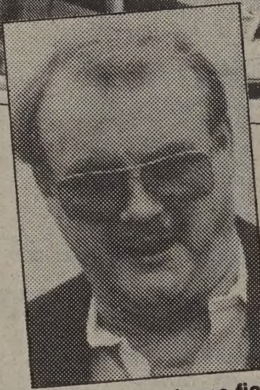
⇑ Not all of Atlanta is pretty.



⇑ Good bar-b-que is where you find it.



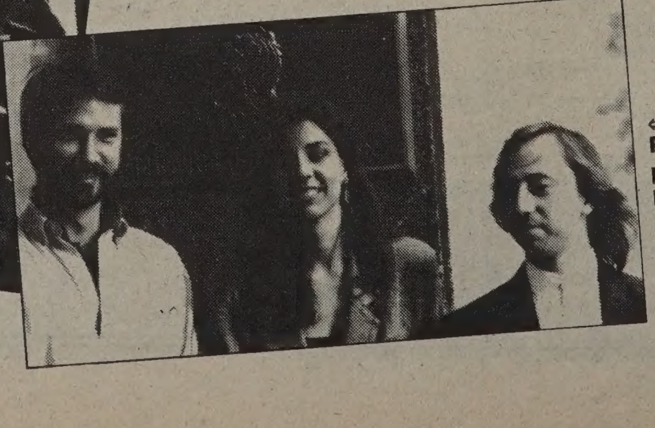
⇐ If you drive out on Peachtree you run into this building from *Ghostbusters*. Sorry. My mistake, it's the new IBM building.



⇑ I ran into science fiction author and columnist Jerry Pournelle at a Toshiba hospitality party. He immediately began arguing with me about something.

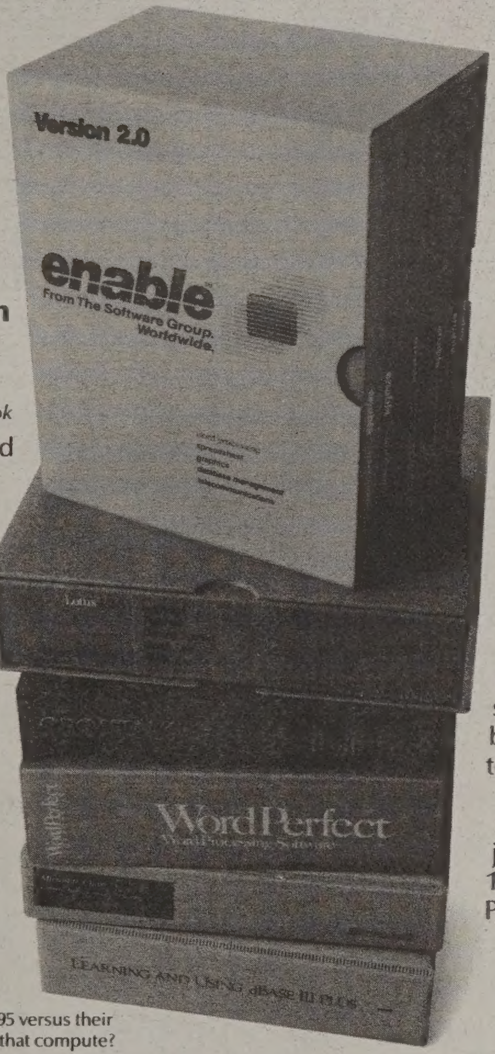
⇑ Unknown to me my fly was open when I took this photo of the *PC Magazine* staff who were hanging around outside the Toshiba affair.

⇑ Few Georgians have ever seen an escalator, and at COMDEX they spent all their time riding up and down on them.



⇐ I caught the last few minutes of the Tall Persons Competition, won by the ever-photogenic New York Times Columnist Peter Lewis, who showed up Brian Roemmele and his girlfriend Laura. He won a free ticket to a Braves game as first prize. Brian and Laura got the second and third awards, a season pass to the Braves games.

Enable 2.0 can do more for your business than the other five combined.


Version 2.0
enable
From The Software Group, Worldwide.
Lotus
WordPerfect
Word Processing Software
LEARNING AND USING dBASE III PLUS

"Enable may legitimately claim to be the only package you'll ever need."

Computer Buyer's Guide & Handbook

Five major business tools, Word Processing, Spreadsheet, Graphics, Database Management and Telecommunications: all in one full-featured, easy to learn, cost-effective package. With the ability to share data across applications that no group of stand-alones can match. And now, with newly-enhanced version 2.0, *PC Week* has named Enable "best integrated software package on the market."

Its remarkable ability to handle a virtually unlimited range of tasks has already made Enable one of the leading software suppliers to the Federal Government and Corporations large and small.

"If you are looking for one program to do it all, this is the one."

PC Magazine

If you're stepping up to a Local Area Network, new Enable/LAN just came out on top in a comparison with other integrated LANs in an *InfoWorld* report: "easier to learn and use . . . the best integration . . . (Enable) simply feels right."

Enable 2.0 and Enable/LAN. Everything you need to unify, simplify and strengthen the operation of your business. For now, and for the growth to come.

For more information, plus the name of your nearest Enable dealer, just dial 1-800-634-3470. New York: 1-800-551-1004. Canada: 1-800-267-9967. Please ask for Department M.

Consider Enable's $695 versus their nearly $2500. How does that compute?

enable
integration without compromise

©1987 The Software Group, Dept. M, Northway Ten Executive Park, Ballston Lake N.Y. 12019

Software Central
25 S. El Molino
Pasadena, CA 91101
(818) 793-4101

PC Upgrades
16935 Vanowen St. Suite D
Van Nuys, CA 91406
(818) 708-2853

Software Centre
916 N. Mountain Ave. Suite G
Upland, CA 91786
(714) 946-5665

Software Supermarket
11960 Wilshire Blvd.
Los Angeles, CA 90025
(213) 207-1495

Gateways
8808 McKinnon Ave.
Bakersfield, CA 93306
(805) 366-0441

Data Bureau
1919 Wilshire Blvd.
Santa Monica, CA 90403
(213) 828-7752

Shore Solutions
5846 Naples Plaza
Long Beach, CA 90803
(213) 433-6749

L.A. Computer Center
12002 Pico Blvd.
Los Angeles, CA 90064
(213) 461-1859

House of Computers
10929 Santa Monica Blvd.
Los Angeles, CA 90024

ComputerEase
10590 A West Pico Blvd.
Los Angeles, CA 90064
(213) 559-1763

Simply Software
3001 Sepulveda Blvd.
Manhattan Beach, CA 90266
(213) 546-2467

Software Centre
391-R State College Blvd.
Brea, CA 92621
(714) 990-6967

CITIZEN'S HOT NEW COMPUTER

For a limited time

Get Free EGA ($150 value*) and special system discounts as we celebrate the introduction of Citizen's new Mate/12 Computer!

You've waited long enough. THIS IS THE ONE. Citizen's new Mate/12 Computer is packed with features and is priced from just $2149 suggested retail.

The Mate/12 is a high performance PC that's IBM AT compatible. It comes equipped with 1 MByte RAM and operates at 12.5 MHz (80286 microprocessor). You get MS-DOS Operating system, GW Basic, and Setup/Diagnostic Utilities software.

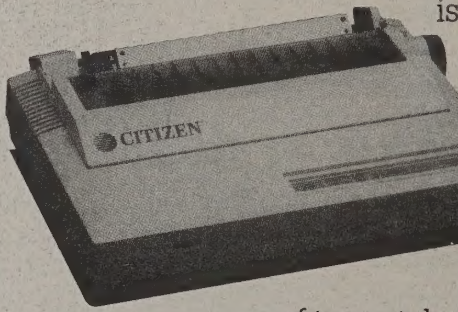
The motherboard has integrated peripheral controllers, serial and parallel ports, mouse port, and floppy and hard disk controllers. Plus, for a limited time you get EGA free! And the Mate/12 has a full 12 month warranty on parts and labor.

CITIZEN
Mate/12
CITIZEN
CITIZEN
Mate/12

Supplies Limited

Unfortunately, we expect supplies of the new Mate/12 will fall short of demand. Get yours today AND take advantage of our introductory specials.

Right now selected dealers are offering terrific discounts on Citizen MSP and Tribute printers when you buy a Mate/12 computer. The MSP-40 Printer pictured here is a good choice to go along with your new Mate/12 and is specially priced now at participating dealers (suggested retail is $499). The MSP-40 is fast–240 cps draft and 48 cps near-letter-quality. Paper loading is automatic and motor assisted; push or pull tractor, top or bottom paper feed. Optional font cards allow a wide variety of type styles. It's also IBM Proprinter or Epson compatible for wide software versatility.



See the new Citizen Mate/12 Computer today
at the following High Technology dealers:

CANOGA PARK
COMPUTERLANE
22107 ROSCOE BLVD.
(818) 884-8644

CHATSWORTH
MICRO WEST COMPUTERS
9745 MASON AVENUE
(818) 998-3416

GARDEN GROVE
PARAGON COMPUTERS
7665 GARDEN GROVE BLVD
(714) 892-0029

LAWNDALE
TABLE TOP COMPUTERS
14717 SO. PRAIRIE
(213) 679-1151

LOS ANGELES
CLASSIC BUSINESS SYSTEMS
253 SO. OXFORD AVENUE
(213) 382-1190

COMPUTER DEALER
10454½ NATIONAL BLVD.
(213) 558-1778

MISSION HILLS
MICRO SYSTEMS CONCEPTS
10338 SEPULVEDA BLVD.
(818) 365-0620

NORTHRIDGE
COMPUTER SYSTEMS SERVICE
18531 ROSCOE BLVD., STE. 203
(818) 993-7031

MARK X COMPUTER SYSTEMS
8248 WHITE OAK AVENUE
(818) 345-0061

PASADENA
TERMINAL ONE SOFTWARE, INC.
100 E. COLORADO BLVD., STE. 200
(818) 405-0847

RESEDA
COMSOFT
17728 VANOWEN
(818) 996-8206

RIVERSIDE
COMPUTER CONSULTING
4711 BANDINI AVENUE
(714) 684-8724

FACCS COMPUTING
7450 CANDLELIGHT DRIVE
(714) 681-1662

SUN VALLEY
COMSOFT
8125 SAN FERNANDO ROAD
(818) 768-5017

VAN NUYS
MHK ENTERPRISES
6345 KESTER #303
(818) 908-9211

CITIZEN

HIGH TECHNOLOGY
DISTRIBUTING
COMPANY, INC.

DEALERS: For information on how you can become an authorized HIGH TECHNOLOGY reseller, contact us at (818) 994-8001.

---

*Free EGA offer ends July 31, 1988

Citizen, the Citizen logo, Citizen Mate/12 and Tribute are trademarks of Citizen Watch Co., Ltd. IBM and AT are registered trademarks of International Business Machines Corp.